Trains

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Trains

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THE mention of "maximum-length freight and passenger trains" in John W. Barriger III's article, "Super-Railroads" [December TRAINS], brought the more or less expected protests that longer trains would cause unemployment. This is a very shortsighted view. The somewhat farsighted outlook is competitive; if railroads artificially decrease their efficiency, or do not take advantage of every opportunity to increase their efficiency, they will lose business to competitors and railroad employment will be less.

But this whole question of limiting railroad efficiency in order to create employment has far broader implications. It is vitally important for its bearing on our American standard of living.

As the productive efficiency of our country has increased, we have shared it in three ways: higher wages, lower prices, and shorter working hours. We could have attained a higher standard of living in any of these ways alone; and for the average man, with his savings and life insurance, lower prices would have been far better than the more obviously attractive higher wages. Anyway, we have shared our country's greater productivity. And the increased efficiency of railroad transportation, the lowering of railroad freight costs from the 1.275 cents per ton-mile of only 20 years ago to the less than a cent of today, is a part of the higher standard of living which has made automobiles, refrigerators, and radios commonplace in the American home.

As soon as we artificially freeze the amount of labor used in producing anything, for whatever shortsighted reason, we freeze that much of our standard of living. Suppose our fathers had frozen the labor used in producing the early automobiles; in producing 1910 railroad transportation, coal, etc. We would still be working 10 or 12 hours a day for a 1910 standard of living, and all the labor agreements and laws in the world couldn't improve the situation. The only thing which did improve the situation was more production per man-hour. We cannot or should not stop as long as the standard of living for any American is capable of improvement, and only the blind or the hopeless will contend that no further improvement is possible.

What we need is more efficient production in every line of our national economy, and in railroading that may well mean more net tons per train, more efficient fuel utilization, and more consistent high speeds. If that means somewhat less railroad employment per ton-mile it will be more than made up for by the greater variety and quantity of goods which the railroads will carry for the expanding standard of living of tomorrow's America—if we let production efficiency do its stuff.

The Pennsylvania has finished one of the largest and most extensive railroad construction projects in the Midwest in recent years, 16 miles of new double-track line on its St. Louis Division at and west of Smithboro, Ill. Shortcutting wide reverse curves of the old line, the new trackage takes one mile off the distance from St. Louis to Indianapolis and increases the flexibility of train operation on one of the Pennsy's war-busiest divisions.

The condition of railroads in Holland is critical. Seventy locomotives and 3000 freight cars have been sent to Germany, along with more than 200 miles of track, switches, and accessories. Once one of the most modern systems in Europe, the Netherlands railroads have been reduced to such a state of chaos that even a semblance of regulated traffic can no longer be kept up. Travel is largely by horse and wagon or canal boat.

Taxes now take 21.05 cents out of every dollar of railroad receipts, compared with 4.4 cents during the last World War.

The W. P. B. will approve the construction of all-steel freight cars in 1944, starting in June, and thus will put to an end the building of composite cars which are less satisfactory.

A. C. Kalmbach.

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"Vital to Victory"

The Service Flag in the lobby of the Great Northern's General Offices at St. Paul shows that 5644 employees have been called from their work and their homes to fight for their country.

With more than a fourth of its experienced personnel now in the armed forces, and without the replacements of equipment or materials and supplies which ordinarily would be available, the Great Northern, in common with other American railroads, has been called upon for an unprecedented volume of transportation service.

That the army of railroad workers on the home front has met this challenge successfully is attested by the following letter addressed to the American Railroads by Robert P. Patterson, Under Secretary of War, and James Forrestal, Under Secretary of the Navy:

> **"The War and Navy Departments would appreciate it if you would express to the men and women who work on America's railroads the gratitude of the Army and Navy for the splendid job they are doing.**
>
> **"Since the outbreak of war the railroads have hauled 76 million carloads of freight, most of it destined for battle fronts. Millions of fighting men have been transported to training camps and embarkation ports.**
>
> **"The Army and Navy realize that to perform this big job, crews on trains, in shops, in yards, and along rights of way have had to work long and hard. To the men and women who have made this record movement of men and weapons possible, the Army and Navy are deeply grateful.**
>
> **"Keep up the good work—for railroad work is war work, railroad service is vital to victory."**

The Great Northern is proud of its representation in the fighting forces of our Country and equally proud of its nearly 30,000 men and women who are doing their utmost to assure that the sacrifices of our fighting forces shall be of lasting worth to humanity.

GREAT NORTHERN RAILWAY

Train Travel, A.D. 1943

★ Was it as bad as the columnists pictured it? It depends upon what train you rode and when you rode it.

By A. C. Kalmbach.

IT WAS in the year 1943 that train travel again became part of the American experience. In that year everyone, and his sisters, cousins and aunts, traveled by train. Hundreds of thousands of young people rode trains for the first time. Hundreds of thousands of oldsters rode trains again for the first time since they gladly foresook the dirty, uncomfortable coaches of a generation ago. What sort of impression did the railroads make on these newcomers, and on the onetime customers brought back by force of circumstances? Admittedly the railroads, bedeviled by wartime shortages of labor and materials and inundated with many times normal traffic, did not maintain the high standard of travel service to which regular train riders became accustomed in the years just before the war. And certainly the wartime service is far from what the train-travel neophytes will find if they return to ride the rails after the war. But was train travel in 1943 as bad as the columnists caricatured it?

No one train ride can be taken as typical, nor can even a series of rides. The service runs the full gamut, from prewar excellence to an opposite extreme of crowded, dirty cars, late trains, and impolite trainmen. Certainly my pleasant 1943 experiences on the *Denver Zephyr* and the *Twentieth Century Limited* are not a measure of the average. Both ran on time; both maintained a prewar excellence of dining-car service and food, although of course with limited menu; the porters were pleasant and considerate, the trainmen helpful and polite. The rides were smooth and comfortable and I found about the usual freedom of the lounge cars in spite of the "Q's" sale of some lounge chairs as parlor-car seats. But both these trains are the sacred cows of their respective railroads, and, what is more pertinent, they are all-reserved-space trains which always did carry a good load, and so now they are carrying just their rated capacity, about as always.

For a typical experience we will have to look elsewhere, but not to my ride in a coach on the Pennsylvania's *American* the Friday afternoon just before Labor Day. This ride was a near-extreme example of one of our largest and best-equipped railroads being smothered under a floodtide of passengers. The train shed of the Pennsylvania station at Richmond, Ind., is much too large for the usual railroad station in a city of 33,000; but it is well in keeping with all the activity which goes on under its smoke-coated black steel arches, for Richmond is a primary crossroad of the Western lines of the Pennsylvania. Here the main line from New York to St. Louis crosses the Chicago-Cincinnati line and meets the trunk which extends northward through Fort Wayne and into central Michigan. Years ago, before war made all railroad stations centers of bustling activity, I took delight in watching at Richmond the 3 o'clock and 6 o'clock rush periods, during each of which five trains arrive and depart with much switching and transferring of through cars. "The *American* now leaving for New York on Track 1. All aboard!" Passengers by the hundreds climb off one train and into another. Are you going to Columbus via Piqua or via Dayton? Will you leave for Chicago via Indianapolis, via the direct route or via Fort Wayne? The busy switchers pull the rear cars off one train and attach them to the front end of another train with perhaps a few cars from somewhere else sandwiched in between.

Yes, Richmond is always a busy spot; but it was especially so Friday afternoon, just before Labor Day. The first section of the *American* eastbound for New York, was reported 17 minutes late. I was riding it to Columbus and as I watched the crowds getting on and off No. 11, the St. Louis section of the *Golden Arrow*, I wondered if I would even find room to stand. Fresh engine-crews climbed on to the double-headed K-4's at the front end. Young firemen were on both engines, men that I thought I

had seen come in on a double-header from the East only a few minutes before.

I did find room in the train—just barely. When between 25 and 30 people stand in the aisle of one coach there isn't much space left. Mainline railroad coaches are not built, like subway cars, for maximum standing room. The coach, however, was a modernized job, well air-conditioned, and passengers were in a friendly mood. The trainmen, apparently having found the usual ticket-collecting routine impractical under the circumstances, took tickets at the car doors as we got on.

We started out with some good-natured huzzahing, but not more than four car-lengths out of the station stopped and stood for 45 minutes while one of our engines was taken off because of trouble and another one put on fresh from a quick turn-around in the Richmond roundhouse. Then we were off on a very spirited dash to Columbus. Put two K-4's on the front end of one of those long Pennsylvania trains and you travel with real zip. During a momentary stop in Dayton a few passengers got off, but seemingly hundreds of khaki-clad young men besieged the train. Many of them managed to squeeze in and some were left for the second section which was behind us. Between Dayton and Columbus I was fortunate enough to "sublet" a seat from a young soldier who went into the dining-car. I chose to wait and eat in the Columbus station restaurant.

The large, efficient Columbus Union Station reminded me, on this holiday eve, of Times Square at 5:15. The train-announcing loudspeakers were calling departures with about the regularity of interurbans in the good old days. "Pennsylvania train for Pittsburgh, Harrisburg, Philadelphia, New York, Baltimore and Washington on Track 5." Another 10 minutes and there'd be a similar announcement for another train. The process seemed endless; and still the crowds came in the front door and through the waiting room and were seemingly absorbed by the suction of the stairs down to the platform.

That was just before Labor Day, and on a busy portion of a busy railroad. That same day, however, I had come down to Richmond, Ind., on the Chesapeake & Ohio of Indiana. This road between Cincinnati and Chicago is a well built line, but because it is not as well established as either of the older and more popular routes, and because it goes through only the smaller cities, the C&O elects to send its through cars over the Big Four and to run only a local passenger train on its own tracks. This all-day local doesn't even go into Chicago. It pauses on the doorstep at Hammond, Ind., that busy railroad junction town which hasn't had a bank robbery in many years because whichever way the bank robbers tried to escape, they would find a railroad train blocking a crossing!

I left Chicago early that Friday morning on the South Shore Line, heading for Hammond to hunt up the C&O of Indiana and its Cincinnati-bound train. I had a ticket reading Chicago to Richmond, Ind., via Chesapeake & Ohio. The young ticket-collector on the South Shore was rather dubious about it. He probably had never before been presented with a C&O ticket; but the conductor okayed it. The South Shore train was comfortably full, as most commuting trains seem to be nowadays. We left on the dot and pulled into Hammond on the dot. A short cab ride, dodging across grade crossings between freight trains, and I was at the Monon station, looking up and down the tracks to find the little local which I've always found delight in riding across the Indiana countryside. An Erie freight went east behind its heavy Mikado with the auxiliary water tank, and the *Erie Limited* paused briefly on its home stretch into Chicago. Then out from the yards backed C&O No. 18—a coach and a combination smoker, mail and baggage car behind a trim high-wheeled Atlantic. A round dozen of us climbed on board to share a car and a half of seating space.

A train ride is usually comfortable, sometimes luxurious; or it can be just plain fun. This ride was fun, which started at Hammond as smoke and steam from dozens of locomotives from many different railroads rose into the sunny sky and the expressmen bustled back and forth with truckloads of express from the *Erie Limited* and for our train and the Monon's Louisville train, which was due any minute. All this railroady atmosphere created sort of a pleasant feeling for the start of a pleasant day's journey. The feeling deepened when the conductor took my ticket, grinned and said, "This must be your own routing. No ticket agent ever routed you this way. Well—welcome to our train." The brakeman had no objection to my standing on the back platform, watching the roadway; and the conductor, not forgetting me, was back after a bit to inquire if he should not wire ahead to have a cab waiting at the Richmond C&O station to take me to the Pennsy station.

After taking water just outside of Peru we pulled up to the station, on the banks of the

Courtesy Pennsylvania Railroad.

Station scene at Richmond, Ind., December, 1943.

Wabash next to the lonesome-looking abutments of the onetime Indiana Railroad bridge. "We've 15 minutes for lunch," said the friendly conductor. "I'll show you where to go. I'm going over there myself." Two of us passengers sat down to a meal and I had a sinking feeling as I watched a real country-boarding-house-style dinner being put on the table in front of me. Fifteen minutes to eat all this? It couldn't be done! With one eye on my watch, I was less than half through when the time was up and I started to rise. "No, no," motioned the conductor from the nearby counter where he was enjoying a "coke." "We've lots of time; finish your lunch." And I did. We were into Richmond on time anyway.

But most of the American passenger business can't be handled in the friendly little trains. This moving-people-about is essentially a mass-production job. Labor Day weekend on the Pennsylvania was obviously an exception to even the wartime rules. On a more normal evening I started East from Chicago on the *Pennsylvania Limited.* The train was backed in only 10 minutes before it was due to leave, quite apparently fresh from a quick servicing in the car yards. The passengers were loaded and we pulled out right on time; but the quick loading was deceptive, for we waited 20 minutes outside of the station while the head-end cars were picked up and switched on. After a good night's sleep I awoke to the feel of the sharp curve entering Pittsburgh station and to the unmistakable sounds of the busy trainshed. We were right on time. A few minutes later while looking out of the washroom window at the warm green mountainsides east of Pittsburgh, I was overcome again with that warm, friendly feeling engendered by pleasant traveling. Our American countryside, any of it, is always good to see. Breakfast on the Pennsylvania was leisurely, with no undue crowding of the diner, no undue hustle and bustle. Horseshoe Curve looked the same as usual and, in fact, under the influence of the passing scenery and the warm sunlight coming in the window, I found myself relapsing into a strange feeling that this was several years ago and that the war was all a bad dream. But not for long. As we swiftly took the curves down the Juniata River, we seemed to be continuously passing freight trains, dozens of them and long ones too, with hundreds of flat and gondola cars loaded with huge olive-green or plain wood boxes. The railroads are really moving freight these days. That must be clearly evident to anyone who rides the trains, especially on multiple-track main lines leading to the Eastern seaboard or the incred-

ibly congested single-track lines of the West.

The *Pennsylvania Limited* is what might be called an off-hour train between Chicago and New York. It leaves at 8 in the evening and takes all the next day to get into New York. Thus, it is not one of the most popular trains. Furthermore, Pullman-car passengers, once they get reservations, seldom realize whether the train is crowded, because the crowding is in the coaches. How about coach travel on a really crowded run such as the Pennsylvania between Philadelphia and New York? I stood, one evening, on the North Philadelphia station platform watching the fleet go west. Brashly I decided to board the 5 p. m. clocker for New York. Here there should be a crowd. There was, in the fifth and sixth coaches, which stopped opposite me. People were standing in the aisles. I walked forward, however, and in the very modern coach immediately behind the engine was many a comfortable, tubular-framed reclining seat completely vacant. I sat there watching the rear end of the GG-1 bob around in front of the door and reflecting on that curious inertia of human nature which causes people to stay in a crowded car rather than walk through the train to find a seat.

The most crowded place in the country, if we are to believe the funny papers, is Washington. In late afternoon and early evening, when through trains are leaving, the concourse of Washington Station gets really crowded in spite of its monumental dimensions. The dozens of regular and temporary ticket-windows are all busy. I left this scene on a Saturday evening aboard the *National Limited* in space I had reserved two weeks previously. On the next track were the coaches of the second section of the *National,* filled but not crowded, with a comfortable seated load. Washington passenger men told me the travel volume fluctuates from day to day, but is near capacity at even its lowest point. I had to wait about 15 minutes for a seat in the diner and the service was a bit hurried, but the meal itself seemed reasonably up to standard. Not so to the man who shared the table with me, however. He complained about everything; and be it to the steward's credit that he did not once excuse anything on the grounds of the war.

Now perhaps I haven't gotten into a real jam with my train traveling, for although my business normally takes me to all parts of the country, I have purposely avoided the Far West and the South ever since the war broke. Thus I have not had the experience of an old gentleman friend of mine who, on a trip West, found himself unable to get any meals the first day out. Soldiers were being served first, and there were simply so many soldiers on board that civilians didn't have a chance at the diner. On midmorning of the second day my elderly friend

Pennsylvania Station, New York City, 1943.

Associated Press.

was really in a bad way. He complained about his lack of nourishment to a friendly colonel occupying the opposite Pullman section. The colonel complained back about his inability to get a drink.

"I have some whiskey in my suitcase that I was taking out West," said the older man.

"You give me a drink and I'll get you something to eat," came back the colonel.

The whiskey was unearthed and uncorked and shortly afterward the two started back to the diner. Just as the steward was putting his arm down between the colonel and the civilian and about to say "No civilians are being served," the colonel turned and said, "Now, father, would you like to ride facing forward or backward?" My elderly friend had no further trouble getting a meal.

Without a doubt, the Western lines, with all their single track and the terrific percentage increase in both freight and passenger service, are having very real difficulty in keeping the service anywhere near on time as well as in furnishing enough equipment to reasonably supply the demand. While the *Denver Zephyr* comes into Denver right on time, it is not so with the through standard-equipment trains like the *Exposition Flyer,* which bear more of the brunt of excess travel and especially of furlough travel. It is not uncommon to see these through transcontinental limiteds posted up four to six hours late. Furthermore, if Washington Union Terminal is crowded, the smaller stations of Western cities which happen to be near army camps are even more crowded. Five years ago one could never have imagined a situation which would even partly congest the Denver Union Station; and yet now, at 4 o'clock in the afternon, elbow room is at a premium. For top honors of the crowded stations, however, I nominate the Milwaukee terminal of the North Shore Electric on Sunday evenings, when the sailors are returning to Great Lakes Naval Training Station after a weekend leave in the city. The technique of loading the crowds is simple. A train of empty cars is backed into a platform and some of the sailors get aboard. But most of them stay on the platform, bidding fond farewell to their girl-friends. Finally, at a word from the superintendent, trainmen call "All aboard, last train to Great Lakes, all aboard!" There is a jingle of the platform bell and the motorman edges the train slowly forward a few feet. The sailors on the platform quickly disengage, climb on board, and the train pulls out. Another train of empties is shunted to the platform and the process starts all over again.

The normal trains between midwestern centers like Chicago and Milwaukee are not so crowded. The nonstop expresses of the Milwaukee Road and the *Commuter 400's* of the North Western usually carry comfortable seated loads, with once in a while a few passengers standing. The through trains for the coast are another story. I have left Chicago late at night on the Milwaukee's *Olympian,* stood all the way to Milwaukee, and alighted from the train with a dozen or so other passengers only to see a crowd of perhaps 75 or 100 people waiting behind the train gate.

It is these through trains which carry the bulk of the added travel, and it is these through trains on which it is most difficult to increase accommodations because an added car per train will mean five or six additional cars when a train is on the road for a five- or six-day round trip. Where the short-distance expresses carry mostly normal business-travel with, of course, considerable increase because of the tire and gasoline rationing, the long-distance trains to the West are carrying not only their normal travel and the business men forced off the roads but they are as likely carrying hundreds and thousands of soldiers on furlough who have never been in far parts of the country before and also the families and friends of these soldiers going to visit them or to bid them goodbye.

The influx of new travelers has, seemingly, made coach travel more friendly than ever before. The American soldier is not noted for his inhibitions, and a few soldiers in a car liven things up more than a little. On a New York Central train between Cincinnati and Cleveland, I enjoyed some high-class free entertainment. A soldier and his wife in front of me were joined by another soldier, all apparently of Italian descent, and they started singing in harmony with soft, sweet voices. After a bit they ran out of songs and,

noticing that I was listening, asked me to suggest some. They ran through all the old favorites and we were in Cleveland surprisingly soon after we left Cincinnati. On a Washington-to-New-York train of the Pennsylvania I sat down next to a young man who shortly started a conversation. New York was his home town and he was on his way back home before induction. A marine across the aisle was returning to his home from Guadalcanal.

Human drama is enacted for the train traveler these days too. The Laurel Line interurban filled up at Scranton with inductees whose families waved goodbye from the station platform while a band played patriotic airs. The Lehigh Valley's *Black Diamond* stopped at Geneva and several hundred about-to-be sailors marched past my car window from the special coaches up forward and climbed into buses on their way to boot-camp. Almost any regular train may have a load of inductees at any time. And almost any regularly assigned equipment may at any time be taken over for special troop service.

The whole situation is full of the unexpected. The train traveler in these war years takes his gamble with the gods of chance. He may stand, as I have, on No. 5, and the very next week, after an unsuccessful attempt to get a parlor-car seat, unexpectedly find nearly a whole empty coach on the same train. He may hit the *Erie Limited* as I did when, one evening out of Chicago, there were only two of us taking dinner. Or he may take it on another evening when, as the steward told me, the steward is sometimes at his wits' end to provide meals for a large movement of soldiers. Train travel in A. D. 1943 is not always what those who have regularly used the trains have come to expect, but it can hardly be said to lack interest. The thousands of new passengers who unfortunately ride mostly at infrequent intervals are sometimes getting extremely bad impressions and sometimes getting good impressions of railroad passenger service. If the railroads could give their best brand of service to all of the new passengers it would be a remarkable advertising accomplishment; but it isn't humanly possible. In fact, with much more of an increase, the railroads couldn't be doing the job at all, for they are obviously operating practically at capacity in the passenger business. The country is indeed fortunate that, in spite of the slim railroad passenger patronage during the 1930's, the roads have the equipment and facilities and experience to accomplish today what is undoubtedly the greatest mass moving of people which has ever taken place.

North Shore Station, Milwaukee, as sketched by Trains staff artist Don Bert.

Bamba Tunnel

Chemin de fer du Congo-Ocean

An important facility for the Fighting Free French.

By Tom Marvel.

DOWN under the big bulge of Africa's west coast, some four degrees south of the Equator, a single-track railway 320 miles long and a meter wide is working day and night to help win the war for the United Nations. On its rock-ballasted 60-pound rails (30 kilograms per meter), cars loaded with essential ores, machinery, vegetable oils and tropical woods (not to mention the most vital war material of all: men) are twisting and climbing in mountainous jungles behind panting, spark-shooting wood-burners.

At night the squeal of flanges rounding dizzy ledges on outside curves blends with the scream of monkeys or the caterwauling of leopards. Sounds and smells of railroad and tropical jungle drift in the open window of your first-class sleeper. One instant pungent wood-smoke mingles with the roar of a tunnel, only to give way, a moment later, to the cool night smell of the jungle as the train rolls out over a hundred-foot ravine on massive concrete arches.

The road is the Congo-Ocean, in French Equatorial Africa. As its name implies, it connects the Congo with the ocean—which doesn't seem to be a great feat, since the Congo joins the ocean anyway. But the railroad does what the river can't do: carry traffic. The Congo, with a flow of water second or third greatest in the world, is a washout, as far as seagoing vessels are concerned. It can take them up only as far as Matadi, in the Belgian Congo, a mere hundred miles from its mouth. From there on up, for some 200 miles, the coffee-colored waters of this great river which drains all central Africa seethe and boil in a succession of mighty rapids.

It was the Congo rapids, more than anything else, which kept the heart of the Dark Continent locked against commercial penetration for four centuries.

The upper end of the rapids is at Stanley Pool, 900 feet above sea level and 300 miles inland. Continuing upstream from this lake-like widening of the Congo, the river's mood is lazy and gentle; only the slap of a crocodile's tail, the wake of a swimming hippo or the musical splash of a stern-wheeler disturbs its surface for some 1200 miles. Its many tributaries are also placid and navigable.

So the Congo-Ocean is the link joining the sea with the middle river; a link which joins the world commerce with the incredibly rich, land-locked Congo Basin, with its 11,000 miles of smooth, navigable waterways. And (even more important from its builders' standpoint), it is an all-French link.

The Belgians and Portuguese long ago claimed the Congo's mouth and the lower-river ports. The French wanted a railway all their own, entirely in French territory. They wanted to give their capital, Brazzaville, at the upper end of the rapids, an outlet to deepwater commerce. They had to build a new ocean port—Pointe-Noire—to begin with, and they had to drive a railway through virgin forest and across mountain ranges and wild savannas to give the port something to live on.

The Congo-Ocean was begun in 1922 and completed in 1934. Its total cost was about one billion francs.* Part of it runs through the most formidable country any railroad was ever called upon to overcome. The road has 12 tunnels, all in a 55-mile mountain stretch, and some 80 concrete bridges and viaducts, of which 59 are of the vaulted-arch type. Its cost in lives during the construction period was between 15,000 and 18,000 native laborers, most of them victims of tropical diseases.

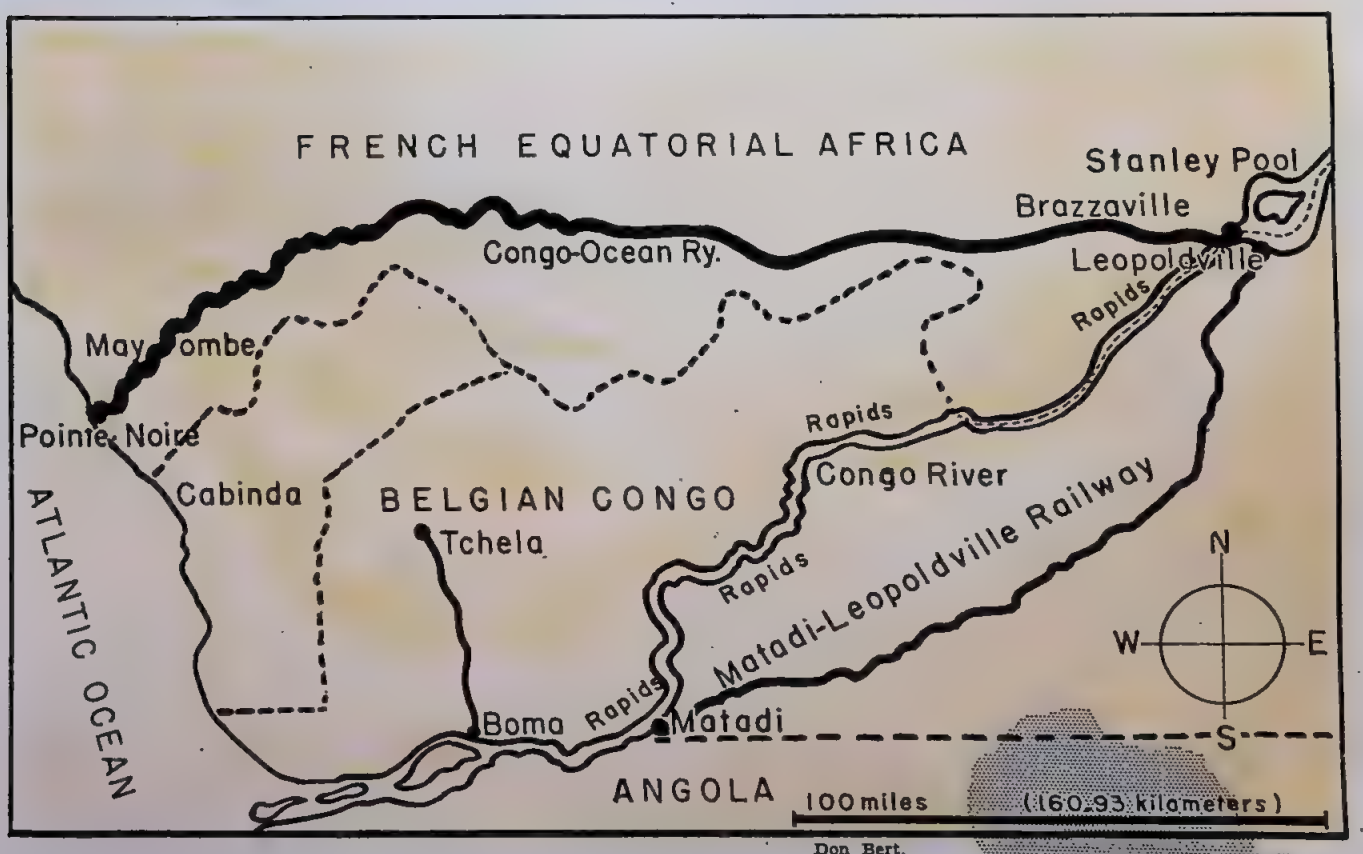
* During the construction period the franc was worth about one twenty-fifth of a dollar, but the variation from time to time was considerable.

The Frenchmen of the late Third Republic, the men whose vision foresaw the Congo-Ocean and whose energy built it, little dreamed that the road's inland terminus would one day become the capital of Fighting France, which Brazzaville is today.

Sprawled along the Congo at Stanley Pool, Brazzaville is now a living symbol of freedom to millions of French men and women. A quiet and spacious little town of 1200 whites and 35,000 blacks, it is becoming world-famous these days, thanks largely to its powerful radio station. Twenty-four hours a day Radio Brazzaville tells the world of France's determination to fight on until the invader is driven from the homeland. Meanwhile, the Congo-Ocean goes on about its business, with less fanfare, perhaps, but with just as much determination and effectiveness. However bigger and more important Brazzaville may become in the postwar tomorrow, a share of the credit must go to this sturdy, fighting railroad and the men who run it.

As a guest of the management, I made an inspection trip over the entire line from Brazzaville to Pointe-Noire. We left Brazzaville at 7 o'clock in the morning and spent the whole day on the road, stopping for photographs and inspections at every likely spot. Our car was a smartly fitted 12-wheel Micheline, made in France and mounted on two pairs of six-wheel trucks, the wheels of which have inflated rubber tires and steel flanges. Formerly used for deluxe passenger service, the Micheline has been withdrawn from its regular run because of the rubber shortage, and is now used only as an official car. With its 115-horsepower engine, the Micheline can make about 57 miles per hour—fast enough, on meter-gauge track!

The car is fitted with private lounge, kitchenette, toilet facilities (even including a shower!) and a broad-windowed salon at the rear, with tables and wicker chairs accommodating 18 passengers. As we rolled off and the engine slipped into cruising speed I found the motion extremely



Roughly 300 miles south of the Equator runs the Congo-Ocean Railway, connecting Brazzaville on Stanley Pool, French Equatorial Africa, with Pointe-Noire, by-passing the rapids of the lower Congo River to connect the Atlantic Ocean with 11,000 miles of navigable water in land-locked Congo Basin. The port of Pointe-Noire and the narrow-gauge single-track railroad were built to give Brazzaville, the capital, an all-French outlet to deepwater commerce.

easy and quiet. In place of the familiar click-click of rail joints, there was only the subdued occasional rub of the steel flanges from one side to the other—an entirely new railroad sound.

From Brazzaville, the line immediately leaves the Congo and begins to climb the first of two mountain ranges it must surmount before reaching the sea. Since we are already well above sea level, this ascent is hardly noticeable despite the fact that the highest summit on the road—1553 feet—is only about 100 kilometers from Brazzaville. Beyond this lies a high, rolling plateau for a hundred miles or so, ending in the heavily wooded Crystal Mountains (pierced by the 5600-foot Bamba Tunnel), and then begins a descent, through jungles and mountain, to the coastal plain and the port at Pointe-Noire.

The center of Bamba Tunnel is the second highest elevation: 1397 feet. From this point the line drops to the beginning of the coastal plain in about 40 miles; and the region—the Mayombe—is by far the most spectacular and difficult. In the Mayombe are all the road's dozen tunnels and more than half of its 80 bridges and viaducts.

Leaving Brazzaville, we rolled through the high, grassy savanna broken with clumps of tropical trees: bananas, oil palms, the lordly kapok and soft green groves of bamboo. Neat piles of firewood for the engines were frequent along the right of way. There are occasional antelopes to be seen in this region, as well as small wildcats. Both are killed from time to time by trains at night. Fortunately for all concerned, this is not elephant country!

Above, train arriving at Brazzaville station (left).

As we glided over gray concrete bridges, many of them of the bow-string arch type, I noticed that every bridge is closely guarded by a native watchman, and each has his little hut, in case of rain. The watchmen's primitive shacks, with their thatched roofs and walls of split bamboo, offer an odd contrast to the neat and modern railway structures.

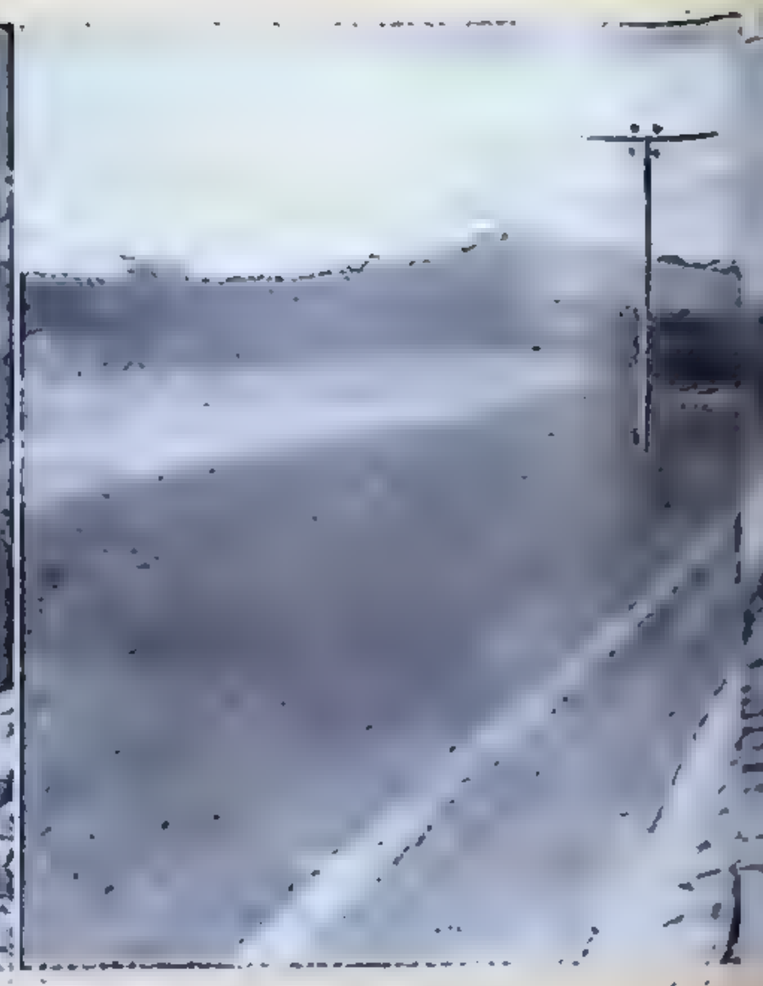
At Dolisie, 214 miles from Brazzaville, the best part of the trip begins.

Dolisie, the inland terminus of the coast, or mountain, division, is the most attractive town along the line and its altitude of about 1200 feet lends a freshness to the air.

About 20 miles on from Dolisie we plunged into the first, and the longest, of the road's 12 tunnels, the Bamba. The country as we entered the eastern portal was dry and thinly forested. At the western portal, where we stopped for a picture, the climate and country were entirely different. The air was cool and moist, the country extremely rugged and covered with jungle growth. This is the beginning of the Mayombe country, one of the most beautiful regions in French Equatorial Africa.

Out of the Bamba Tunnel at this end gushes a continuous stream of pure and cold water. Someone, years ago, planted watercress in the icy little stream-bed and it flourished, so that today there is a considerable plantation in the heart of the jungle. The cress is as delicious as any from a Northern spring garden.

The road now descends, following mountain torrents, diving into short tunnels and curving over arched viaducts in almost continuous succession. The viaducts in this section are of massive concrete, unreinforced. Yet they are so well proportioned that their very massiveness seems to convey an impression of airy grace combined with strength which recalls the ma-



Germaine Krull.

Between the Congo and the Ocean.

Above, left: Typical jungle scenery in the Mayombe region. The cut in the center background marks the continuation of the rails in the foreground.

Native watchmen are stationed at every important bridge on the Congo-Ocean. The rail car in this photo is the one in which the author made his trip.

This stout, French-built Mikado is ready to leave Brazzaville station with the semi-weekly train to the coast. She burns either wood or coal.

The railroad ends at water's edge both at Brazzaville on the Congo (left) and at Pointe-Noire (right). The deepwater pier at Pointe-Noire was constructed at a cost of a million dollars. Here, in peacetime, ship's passengers can transfer directly to the train which takes them on to Brazzaville.

Germaine Krull.

Heavy tropical rains make clean drainage ditches and firm ballast absolutely essential on the upland mountain division. This scene is typical.

Left to itself, jungle growth would cover tracks and tunnels in little more than a week. This scene is between Pointe-Noire and Dolisie.

Built by Baldwin in 1917, this is one of 12 such switchers owned by the Congo-Ocean. The makeshift "tender" carries extra wood for yard work.

The highest viaduct on the 320-mile railroad is less than a mile from the longest tunnel, the Bamba, about 85 miles from Pointe-Noire.

Germaine Krull.

he locomotive is French-built, but the couplers are merican-style automatics, standard equipment on the ongo-Ocean. Notice spark-arrester on smoke stack.

sonry arch railway spans of Switzerland or the French Alps. Nearly all of them are built on curves—a fact which contributes greatly to their picturesque beauty.

Still descending, we find the gorge of the rushing Loukenene River and twist and turn on a narrow ledge 30 to 50 feet above the stream. The country gradually levels off, the forest thins out and we are speeding evenly along the coastal plain, finally pulling up at the handsome terminal at Pointe-Noire. The little seaport is the home town of the Congo-Ocean, whose main offices are in the terminal building, whose locomotive and car shops are a mile or so away and whose "kilometer 0" is neatly engraved in the center of the main platform.

POINTE-NOIRE, the port, and Congo-Ocean, the railroad, are really a single project, conceived and built according to correlated plans. Without one, the other could hardly exist. An extension of the railway runs out on a long artificial mole protected from the pounding Atlantic seas by a breakwater of 20-to-30-ton rocks brought down by rail from quarries some 50 miles back in the mountains. More than a million tons of these rocks were dumped into the sea to make the three-mile-long structure.

On the harbor side, seagoing vessels of any draft can come alongside the concrete quay and discharge or load directly to or from freight cars. I noticed a string of flats being shepherded about by a 2-6-2 tank switcher bearing Baldwin's circular name-plate and the date 1917.

When the war is over, passengers arriving by ship—if they still use that pleasant mode of travel—will be able to disembark directly at dockside to cars of the Congo-Ocean for the trip to Brazzaville. Also included in plans for the future is electrification. Potential waterpower is abundant and yet untapped in this part of Africa. Electric power would permit use of open-roof observation cars, such as those used on the electrified section of the Milwaukee Road, through some of the finest railroad scenery to be found anywhere. And, more important, electrification would eliminate the present forest-fire hazard of wood-burning engines.

Even today, the prewar all-steel passenger cars of the Congo-Ocean are among the best looking and most comfortable on the continent. Their exterior colors of sea-green and cream are uniform for all three classes, as well as for the "wagon-restaurants," of which there are two.

The complete passenger train presents a very smart appearance, even if the third-class coaches' unglazed windows are always crammed with waving and yelling blacks. The effect of these handsome cars would of course be enhanced were the trains composed of these alone; but wartime necessity, quite rightly, spoils the effect these days, when the consist of the bi-weekly trains is more freight than passenger.

First- and second-class cars are divided into compartments, European style, and can be converted into sleepers. They are provided with lavatories at either end and, in addition, a shower bath is provided at one end of the first-class cars.

Steam power includes six French-built Mikados, some 20 switchers (some of them of German make, awarded on reparations terms 12 years ago), and nine heavy freight engines of the Golwe type. These consist of two articulated and widely spaced six-wheel sets of drivers, the rear set being all the way back under the tender. The single long boiler bridges the gap between the two sets of drivers, which thus receive nearly the entire weight of engine and tender. These powerful, rather slow locomotives are useful in pusher work on the mountain division.

Other power includes two Diésel direct-drive motor cars, two pneumatic-tired de luxe Michelines, and three handsome Diesel-electric locomotives for single- or multiple-unit operation. For the time being, the Diesel-electrics are not used in regular road service; and it is unlikely that the Congo-Ocean, with its convenient sources of good water, its closely spaced stations and its cheap fuel, can utilize economically the special qualities of the Diesel-electrics.

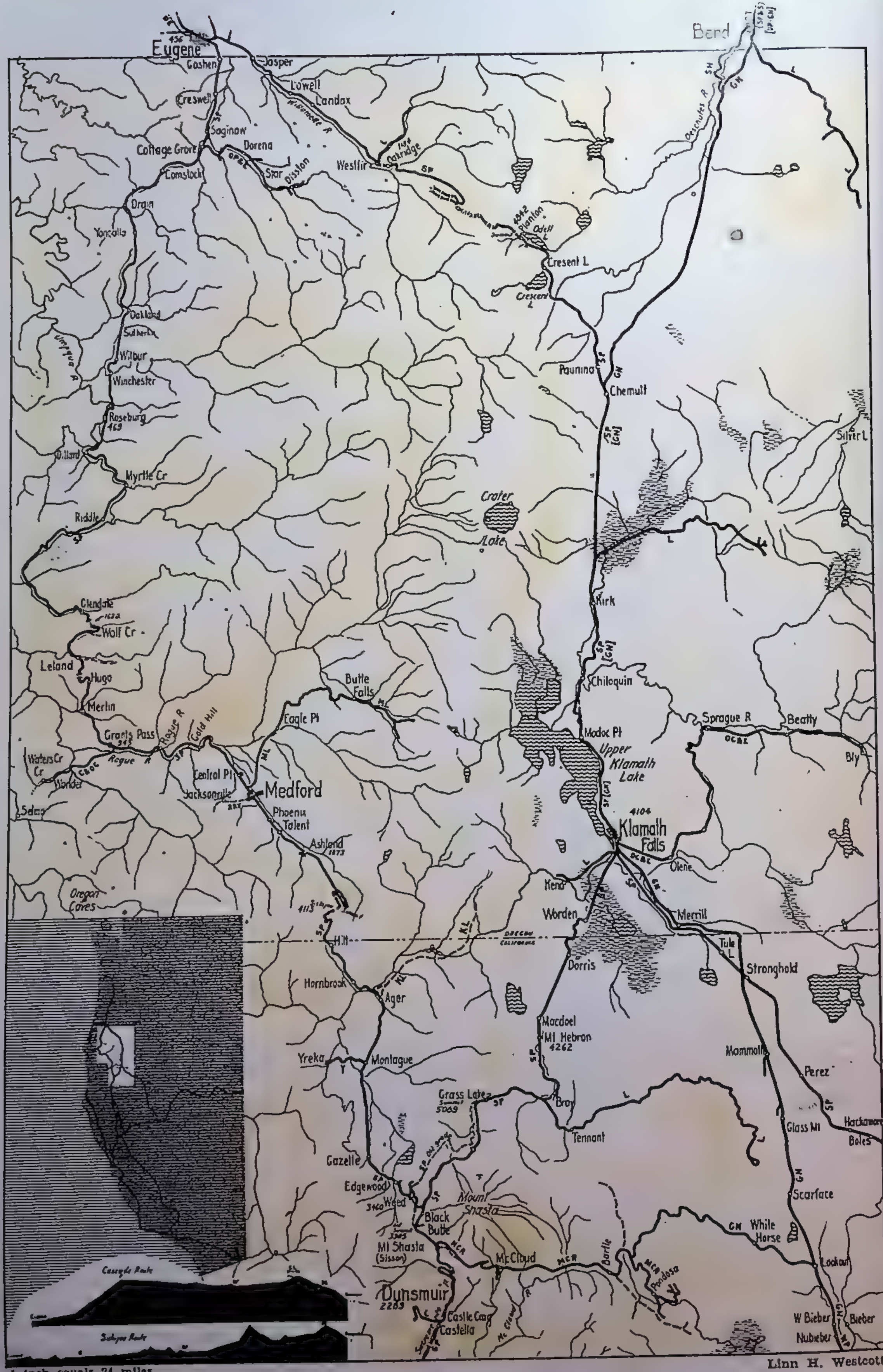
Paper is precious!

This page is a piece of very precious war material. Paper is used to protect the food and ammunition of our boys overseas. The faster our war production speeds, the more paper and paper board are needed not only for packaging but for actual weapon-building. That's why the government asks you to conserve paper and to save used paper for your local salvage drive. When writing a letter, use both sides of the paper. If you make a mistake, erase it—don't use a fresh sheet. One sheet of paper saved by each of our 130 million population will release 1,300,000 pounds of paper! Carry a market bag or basket when shopping, so your grocer and druggist can conserve wrapping paper.

G. W. Reilly, Washington, D. C.

B&O at Harpers Ferry.

At historic Harpers Ferry the Baltimore & Ohio main line up the Potomac Valley crosses from the Maryland to the Virginia side over a railroad bridge whose ancestor was one of the prizes of Civil War raids and was blown up by the armies of the South. The present bridge angles across the river from a tunnel in the precipitous cliffs of the north bank (background, where steam is rising). The train is a freight pulled by a 2-10-2 locomotive.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Yoncalla
Oakland
Sutherlin
Wilbur
Winchester
Roseburg
Dillard
Myrtle Cr
Riddle
Glendale
Wolf Cr
Leland
Hugo
Merlin
Grants Pass
Rogue R
Gold Hill
Eagle Pt
Butte Falls
Waters Cr
Central Pt
Jacksonville
Medford
Phoenix
Talent
Ashland
Oregon Caves
Hornbrook
Ager
Yreka
Montague
Gazelle
Edgewood
Weed
Mt Shasta
(Sisson)
Black Butte
Dunsmuir
Castle Crag
Castella
Mt Shasta
Mt Hebron
Macdoel
Grass Lake
Tennant
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Mount Shasta
Mt Cloud
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Kirk
Mammoth
Perez
Glass Mt
Hackamore
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Crater Lake
Odell L
Crescent L
Bend
Deschutes R
Cascade Route
Siskiyou Route
1 inch equals 24 miles.
Linn H. Westcott.

SP's Cascade Line

A Photo Story

D. L. Joslyn, 2164 Castro Way, Sacramento, Calif.

THE vast north-and-south traffic of a suddenly industrialized North Pacific Coast is thrown upon only two railroads between Oregon and central California, the Southern Pacific and the recently built Oregon Trunk - Great Northern - Western Pacific. Only the Southern Pacific runs regular passenger service. With West Coast passenger traffic up more than seven times over 1939 and freight traffic which can be easily imagined in terms of myriad shipyards and airplane factories, all new, the Southern Pacific Shasta Route between Portland and San Francisco has become one of the country's most intensively used single-track lines. That it handles the overload efficiently is due in great measure to the new Cascade Line, finished in 1927, which provides a better and alternate railroad over the heavy country in the vicinity of the California-Oregon border.

The original Southern Pacific line from the Overland Route near Sacramento to Portland was built in 1887. From central California it followed the great valley of the Sacramento on easy grades northward for more than 200 miles, and from Portland south the railroad followed the waterlevel grades of the Willamette River for almost 150 miles. But in between these two river valleys was some 300 miles of very rough country, land cut by the valleys of rivers flowing to the Pacific and at right angles to the rails.

The 1887 route, now known as the Siskiyou Line, roller-coasted over the mountainous ridges with grades up to 3.3 per cent. A grade like this is bad enough, as it needs four 2-10-2 engines to take 48 cars uphill, but the Siskiyou Line is a constant succession of ups and downs, with several grades where helper service is needed. It was to achieve more economical operation, as well as to open up and develop the virgin territory farther east, that the SP built the Cascade Line, which branches from the old line at Black Butte, Calif., and rejoins it at Eugene, Ore. Most of the Cascade Line is at higher elevation than the Siskiyou, but after once reaching high ground the profile is almost level for the bulk of the distance, for the route is laid out along a high plateau back of the Cascade Range. From Black Butte the track skirts Mount Shasta and climbs on a 1.4 per cent grade to reach a summit of 3905 feet, after which it dips slightly to the plateau. The next bad grade is the 1.8 per cent descent from the summit of the Cascades into Salt Creek Canyon, which the road follows into Eugene.

Courtesy Southern Pacific

The contrast between the grade lines of the two routes is even more strikingly brought out in the profiles (page 18). Springfield Junction is the point just outside of Eugene, Ore., where the two lines actually join. Both profiles include the line south of Black Butte to Dunsmuir, which is an important engine terminal and the head of the Sacramento Valley.

At the time the Cascade Line was built, Santa Fe type locomotives were extensively used for freight, instead of the powerful backward articulateds which pull much of the traffic today. The operating economies of the new line can be emphasized by comparing engine usage on the old and new lines at the time the cutoff was opened. On the old line a train of 48 cars over only one engine district, from Ashland to Dunsmuir, required four 2-10-2 engines on the 3.3 per cent grade to the summit of the Siskiyous, 17 miles. Here two engines were cut off and

Top, courtesy Southern Pacific; bottom, W. R. McGee, 418 N. B St., Livingston, Mont.

two continued with the train to Snowden, 59 miles. Then one engine pulled the train across the Shasta Valley to Edgewood, where two were added for the 2.2 per cent grade up to Black Butte, only 9 miles. One engine handled the train down the remaining 22 miles to Dunsmuir. In contrast to this complicated and expensive performance over only a small portion of the old line, a southbound train of 71 cars was in 1927 handled over the entire new line as fol-

Why it's the Shasta Route.

Southern Pacific calls its railroad from San Francisco to Portland the Shasta Route, and no wonder, for both alternate lines, the Siskiyou and the Cascade, offer views of Mount Shasta like the one above showing a passenger train near Black Butte, Calif., with Mount Shasta in the background. The freight train in the lower photo has Mount Shasta in the background to the right. On the opposite page is a tunnel through Hackletooth Mountain, Ore., on the newer Cascade Line. Much of the construction is sidehill work of this type.

lows: three 2-10-2 locomotives up the 1.8 per cent grade out of Salt Creek Canyon to Cascade Summit, one engine over most of the rest of the line, with a single helper up the 1 per cent grade from 35 miles south of Klamath Falls to Grass Lake summit.

Not all of this Cascade Line was new construction. The railroad had been built for 43 miles up Salt Creek Canyon east of Eugene as early as 1912, and the line from the south had reached the lumbering center of Klamath Falls in 1909 and then Kirk, 41 miles farther north, in 1912. Thus the 1927 project was a 110-mile connection between these two fingers, together with some relocation of existing rails to fit the former branch lines for part of a first-class main route.

Between Chemult and Klamath Falls the Great Northern has trackage rights over the Cascade Line. After hearing a number of cases

affecting proposed railroad construction in this part of Oregon, the I. C. C. issued certificates of permission only on the condition that facilities be used in cooperation wherever possible. The principle of competition was sustained, and yet without excessive duplicate capital investment. During the period when Union Pacific and Southern Pacific were under the common ownership of E. H. Harriman, UP planned to build a line west from its Oregon Short Line on the Idaho-Oregon border, and to connect with SP into Portland. The line was begun from both ends, the SP end becoming the north end of the Cascade Line and the UP end becoming the present line to Burns, Ore., a lumbering center some 150 miles east of Chemult on the Cascade Line. In between is virgin country, which Oregon tried to open up by forcing the UP to extend its Burns line. The I. C. C. refused to order this, commenting that the UP would probably make such a

Through the lumbering country.

Through the heart of the West's lumberland runs SP's Cascade Line. Klamath Falls, junction point of the Cascade Line, the Alturas Cutoff to the East, and the Great Northern's California line, is an important lumbering and sawmill center, shown in the general view at left. The pines close to the track at Cascade Summit are typical of scenery along much of the line. Snow is common even in early Fall and late Spring.

Courtesy Southern Pacific.

Courtesy Southern Pacific.

Difficult sidehill construction.

The slopes of Salt Creek Canyon are steep, heavily wooded, and broken by boulders and ravines, making it difficult to secure support for the railroad. Notice the three trestles in the short stretch above. In this same vicinity, in one section of only five miles, it was necessary to construct nine tunnels in order to keep grades and curvature in hand. The line in the photo is the same track as that shown in Winter on pages 26 and 27. The main Cascade Range is in right background.

connection when it saw that the time was right.

The Cascade Line was only part of a tremendous improvement program. Southern Pacific had more new construction in hand during the period from 1923 to 1929 than any other railroad in the country. Not only was 39 million dollars spent on the Cascade Line (including earlier expenditures), but millions of dollars were invested elsewhere on the system for new lines, double tracking, bridges, terminals, heavier rail, and new tunnels. One of the new lines was the Alturas Line, which connected with the Cascade Line at Klamath Falls and may be considered part of the same project. It runs east from Klamath Falls, partly over the old Nevada-California-Oregon Railroad which was changed to standard gauge and rebuilt, and connects with the Overland Route just east of Reno in Nevada. This provides SP with its own direct line from the East into Portland, and may be said to take the place strategically of Harriman's onetime plans for a joint SP-UP line. No passenger service is run over the Alturas Line, but it is a very important freight shortcut.

The first passenger train established over the Cascade Line was the *Cascade*, originally an extra-fare train and still all-Pullman. Gradually, through service was shifted over from the old established Siskiyou Line, until now only freights and one local train from Ashland to Portland use the old route, and all five through San Francisco-Portland trains use the newer line.

The scent of pine fills the air for most of the trip, and on a clear day high mountains are almost always in sight. The railroad literally treads on Mount Shasta's toes, and Crater Lake is a 62-mile side trip from Klamath Falls. Odell

Courtesy Southern Pacific

Clear, deep lakes line the tracks.

Along Odell Lake, just south of Cascade Summit, trains skirt the very water's edge. Many a clear mountain lake or stream is seen along the Cascade Line, and now man is creating an artificial lake along the Shasta Route near Redding, Calif., which will still further enhance the scenery when you take that West Coast trip after the war is won. The bridge shown under construction below now carries SP tracks over the reservoir which is gradually filling behind Shasta Dam in the Sacramento Valley.

J. L. Watson, 1016 W. 53rd St., Los Angeles. Calif

Lake and Klamath Lake are skirted. Along the shore of Odell Lake is a unique single-ended tunel, used as one leg of a wye for turning the helper engines which have come up from the Salt Creek Canyon to the nearby Cascade Summit.

The hairpin loop descent from this summit is not only an engineering feat, but a scenic marvel of the Northwest. A northbound train, after passing through the summit tunnel, runs high along the wooded canyon slope, through tunnels and snow sheds. After a bit a railroad line can be seen looping back on itself far down on the valley floor. The conductor points and says to the travelers in the observation car, "That's where we'll be in about half an hour." And it is. The road reverses itself in a circular tunnel through the ridge it has been skirting, angles down the slope in the direc-

tion from which it came, and finally, far below its original entrance upon the scene, swings back in the right direction on a 515-foot-long, 50-foot-high steel viaduct.

These are green mountains, green with evergreens and thick vegetation and crisp, moist air. Snow comes early and stays late. The lakes and rivers are many and clear. Sawmills and lumbering dot the country, but otherwise it is new and untouched. Southern Oregon, east of the Cascade Line, is perhaps the largest area in the country without railroads, and practically without highways too. This is the last American frontier, which the Cascade Line has started to tap. After the war, when railroads can again cope with traffic in the normal fashion of more equipment where it is needed, the Cascade Line will be something to see.

See page 24.

Courtesy Southern Pacific.

Locomotive

LIGHT housekeeping at its lightest! Kitchen, bedroom and bath—in the cab of a locomotive. This is the lot of "messengers" whose job is to see that new locomotives reach their destination in first-class condition. Their housekeeping equipment of stove, bed, cooking utensils, wash basin and other paraphernalia is installed in the locomotive before it leaves the shop, and "home, sweet home" to the messenger is a locomotive cab until the end of the trip.

A newly built locomotive is the personal responsibility of one of these messengers from the time it is released by the builder to the time it is delivered to the road on which it will run. The messenger's job is one which requires keen ears, keen eyes and excellent judgment, for he will be held accountable for getting this valuable piece of equipment safely to its destination with everything in working order. Although he is an experienced engineer and selected for the job of messenger because he is especially capable, he never touches the throttle, but his eyes and ears are tuned to catch any imperfection in the functioning of his charge.

One of these engineers has been a locomotive messenger for 40 years, and one of his jobs was the delivery of one of the world's largest locomotives from the Schenectady plant of the American Locomotive Company to the Union Pacific Railroad yards at Cheyenne, Wyo. For more than 2000 miles he and his assistant lived in the cab of that locomotive. They slept in it, cooked and ate their meals in it, but never touched a single control, because this powerhouse was being towed to its point of delivery

Messengers

★ Seasoned engineers play nursemaid to new motive power while it is delivered dead in slow freight trains.

Reprinted with permission from *Locomotive Engineers Journal*.

—the traditional way of delivering all new engines.

In spite of its tremendous size—596 tons—the new engine was a delicate creature as it set out on its first journey. The driving rods, cylinders, shafts, bearings and other parts had to be broken in properly. An engine capable of developing 7000 horsepower has to be perfect, and it was the messenger's job to see that it arrived in that condition.

Sitting with his head out of the window as though driving the train, a messenger is constantly on the alert for trouble, for this locomotive is entrusted to his care whether the destination be San Francisco or Sidney, Australia. Invariably his nose discovers first anything that might be amiss. There is a hot bearing. In the daytime, the messenger waves a red flag. The engineer driving the train is under orders to keep a wary eye on his precious cargo. The train slows to a stop. If there is trouble at night the messenger waves a red flare. The trouble is corrected and the train moves on.

Although his engine is being hauled as freight,

From the time a locomotive messenger climbs into the cab at the start of the delivery run until his charge is safe in the hands of the purchasing railroad, he literally lives in the cab. In the photos a messenger sleeps on an improvised bed, shaves, and cooks his meals on a temporary stove 'midst valves and gauges and gadgets.

the messenger is in complete charge of the train. When he feels that his locomotive needs checking, the train must stop. The speed of the train is set by the speed the messenger believes his engine can stand.

When it concerns his engine, the messenger is 'a complete autocrat. After the new locomotive has joined its first train, the messenger rides about 20 or 30 miles and orders the train stopped. The locomotive is then carefully checked. A bit of oil may be needed, a bolt tightened; and then the train moves on. When a terminal is reached, the messenger may feel that his locomotive can stand more speed. A few words with the yardmaster and the engine is moved to a faster freight. But no matter what train it is, the messenger remains complete boss.

Some messengers for the American Locomotive Company, the Baldwin Locomotive Works and other producers of locomotives have been to all parts of the world—to China, Japan, France, Italy, Korea, Nicaragua, Belgium, the Philippines and other places. They have never failed to bring in their engines. The famous Japanese earthquake of September, 1923, did delay such work a bit, but the locomotive arrived in Tokyo, and safely. But time marches on, and now, 20 years later, the idea of an American locomotive arriving safely in Tokyo with an American messenger in the cab would indeed shake the world much more than the 1923 earthquake.

New bearings need plenty of oil, and at a signal from the messenger the train is stopped for servicing of the dead locomotive. Locomotives are often shipped with rods down.

A messenger's job is a full-time proposition. The American Locomotive Company has 15 of them on the active list and they are all kept busy.

There are three main requirements for a messenger. He must know engines, know the "game," and have a good nose. The nose will find a hot bearing before he can see any smoke. Knowing engines will tell him what to do about it and knowing the railroad game and language will help get the engine through.

And now, when transportation is of the utmost importance, whether in the United States or in the various parts of the United Nations, it is most essential that these locomotives arrive promptly and safely in A-1 condition, ready for their journeys over the main line.

Railroad money-savers.

Many railroads have established an employees' suggestion system, the results of which have been both interesting and profitable. Since the Illinois Central adopted the system three years ago, 59,120 suggestions have been received and 6542 cash awards totaling $67,288.-30 have been paid for ideas that either save or make money. The largest award, $2605, was won by J. W. Melton, stockkeeper in the shops of the IC at Centralia, Ill. Melton made the suggestion that certain malleable castings on freight-car trucks be replaced with forgings.

Marion Yard, Erie Railroad.

All photos courtesy Erie Railroad.

It Happened at Marion

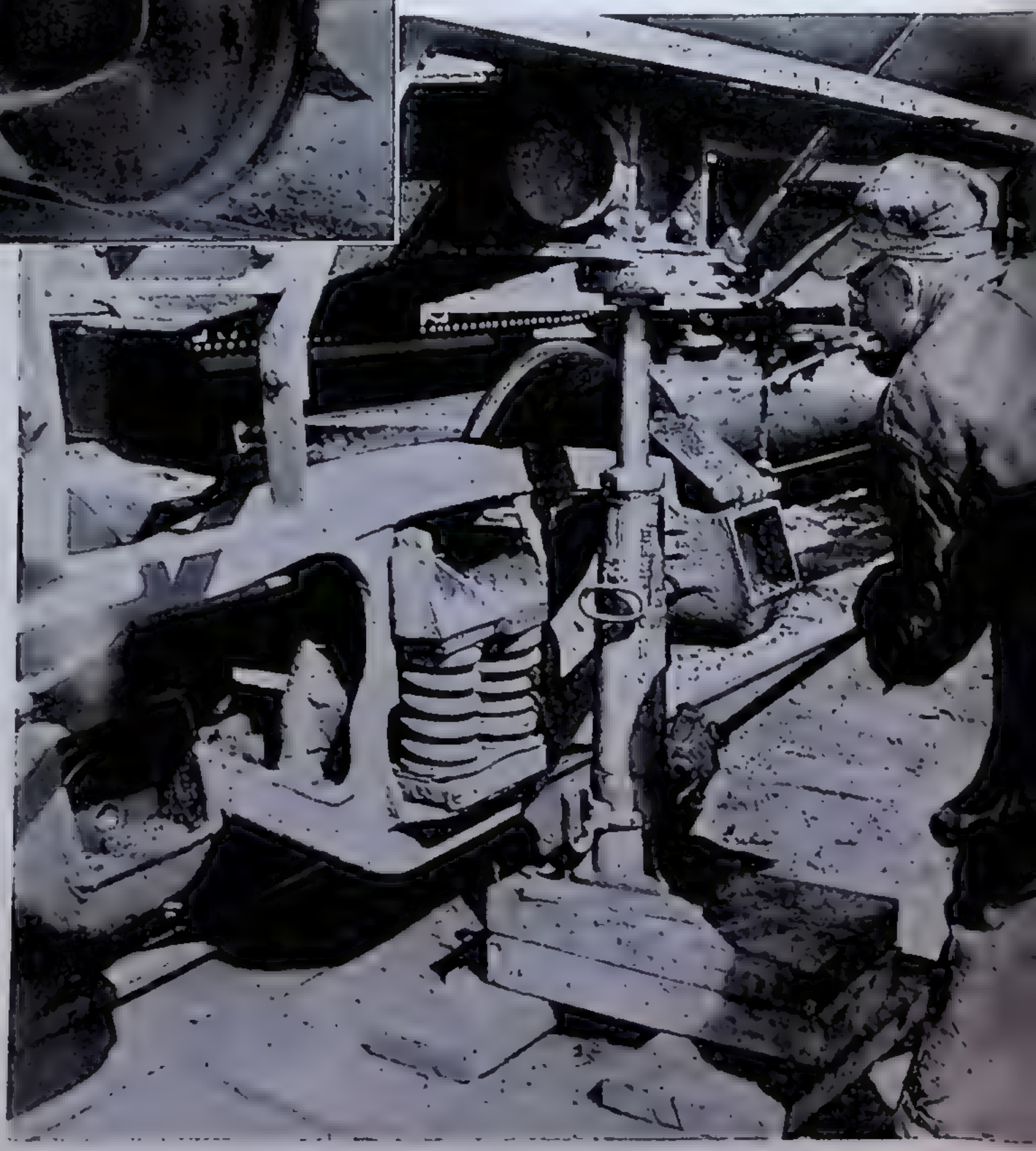
IN ITS more formal moments the railroad business may seem to be bound up by red tape, but when a job needs doing railroad men do it, and quick. This happened one day last Summer on the Erie Railroad, in the yards at division-point Marion, O., shown in the photo above. One car cut out and left behind a train for a cracked wheel is just routine, but the Erie men on the job knew that one car cut out of a troop train for a bad wheel was just that much more delay in winning the war, so the routine was sliced, the wheels replaced pronto, and the car went right on with its train. Let the railroad's departmental report of the incident speak for itself:

"At 2:35 p. m. August 25, 1943, a train with troops and 25 flat cars with impedimenta stopped on our westbound main track at Marion, O., for supplies, servicing and usual terminal inspection, following a change of locomotives.

"Immediately after the train stopped, blue flags were placed at each end of the train and car inspectors O. Gorenflo, Earl Griffith, S. Townsend, and H. Green, working under the direction of Foreman R. J. Maskill, set out to make the usual inspection to determine mechanical fitness of the equipment to continue to the next inspection point. At about the time this train arrived in the yard, Yardmaster Pohler dispatched a yard engine, No. 3058, commonly known as westbound trimmer, in charge of Engineer A. C. Stout, Fireman P. F. Jerew and Conductor T. R. Carskadden, with Brakemen C. S. Rosser and Grover Cramer, to make switches on No. 3 shop track. While waiting for the shop forces to remove the blue flag from this track, Conductor Carskadden, simultaneously with car inspectors O. Gorenflo and E. Griffith, discovered a broken wheel rim on D&H 23093, one of the cars loaded with impedimenta, which stood approximately 19 cars from the rear of the troop train.

"The break in the wheel rim was approximately 5½" long, extending 1¾" into the tread of the wheel, and the fracture inclined inwardly. Conductor Carskadden, realizing the serious delay that would be encountered unless proper action were taken, immediately and without instructions from the yardmaster organized his crew to move their engine to

The quick-thinking Erie crew at Marion, O., recreates the fast wheel-change by which they replaced a cracked wheel and sent a troop train on its way with a total stop of only 54 minutes at their division-point yard. At left is O. Gorenflo, car inspector, discovering the large



the rear of the troop train of which the bad-order car was a part. This move involved a distance of approximately a mile and was accomplished in a very short time. On the arrival of the yard engine at the rear of the train, Car Foreman Maskill had his forces notified that the bad-order car was to be switched to the shop track for change of wheels. On proper signal from inspectors, the blue flag was removed, the yard engine coupled onto the train and the rear 19 cars moved to No. 3 repair track. The repairmen were organized with jacks, tools, horses and blocking, and when the car came to rest on the shop track the repairmen immediately set about to change the wheels. The 18 cars were pulled away from the bad-order car a sufficient distance to permit blue flags to be properly placed. At the same time, the conductor and engineer were notified of the procedure to be followed and that no move was to be made until the foreman in charge of repairs personally notified them that the repair track was released.

"The blue flag was placed on the track at 3 p. m. and with the use of power jacks the car body was raised and trucks moved from under the car. With the aid of a special device used in dismantling the particular type of truck involved in repairs, the truck was dismantled, defective wheels removed and new wheels applied. The entire operation of changing the wheels was accomplished in 18 minutes from the time the car stopped on the shop track until repairs were completed. The blue flag was removed and track released to conductor and engineer at 3:18 p. m. The car was coupled onto and switched back into its original position in the train at 3:22 p. m. and, after required air-brake tests were completed, the train departed at 3:29 p. m., 54 minutes after its arrival."

break in the troop-train freight-car wheel. He reported immediately to the repair foreman so that a new wheel could be brought up for replacement, and meanwhile had Engineer A. C. Stout (below, right) run his yard engine down a parallel track so as to shift the rear 19 cars of the troop train to the repair track. E. Griffith jacked the nineteenth car from the rear up off its truck (left), which was then rolled out and dismantled with the aid of a jig, and the axle with broken wheel was exchanged for a new axle and a pair of wheels. The rear end of the train was then switched back and the troop train was ready to roll. Ordinarily the defective car would have been cut out for repairs and sent on by a later train.

Part of the crew which did the actual replacement job in the record time of 18 minutes is shown to the left: G. R. Kellog, Henry Smith, A. Everly and B. Bilger. Other members of the crew were H. Hoffman and Shop Track Foreman L. J. Malone.

Natural Tunnel

★ Found almost ready for use in 1880, 788-foot passage is used by Southern Railway.

ONE of the most interesting works of nature to be found in the United States is the Natural Tunnel of Virginia through which the Bristol-Appalachia line of the Southern Railway System runs. It is particularly interesting for the reason that it is used by a standard-gauge railway over which a heavy traffic is moved. This tunnel, which is in Scott County, Va., 24.1 miles east of Appalachia and 45.4 miles west of Bristol, is 788 feet long and provides the channel through Purchase Ridge, a spur of Powell Mountain, for Stock Creek, a small tributary of the Clinch River.

Evidently the tunnel is the result of erosion through ages past, having been cut by the waters seeking the easiest way to the Clinch basin and thence through the Tennessee and Mississippi rivers to the Gulf of Mexico. The east portal of the tunnel is 120 feet wide and 90 feet high and opens into a U-shaped amphitheater surrounded by a perpendicular rock wall 200 feet high that swings out to right and left like a fan. The top rim of this wall measures nearly 3000 feet. The opening at the west portal is somewhat smaller than at the east. The walls on either side and above the tunnel rise abruptly but without the amphitheater appearance which is manifest at the east side.

When the line between Bristol and Appalachia, now a part of the Appalachia Division, was being surveyed in the Winter of 1880, this tunnel was found almost ready for use. In constructing the roadbed, the line of the stream was followed through the tunnel, but just beyond the east portal a bridge was constructed over Stock Creek and a tunnel 145 feet long was bored through the opposite wall of the amphitheater. The opening between the Natural Tunnel and the short bored tunnel is 341 feet. There is a reverse curve in the Natural Tunnel, as it was necessary to follow the alinement established by nature.

The line on which the Natural Tunnel is located was originally the South Atlantic & Ohio and was later known as the Virginia & Southwestern before it became a part of the Southern

Courtesy Southern Railway System.

Opposite page: East portal of Natural Tunnel, 24 miles east of Appalachia, Va., on the Southern Railway. The river which bored the tunnel can be seen to the left of the tracks. Right: Looking east from east portal. The short tunnel in the background was man-drilled as an approach to the natural bore.

Good old days.

In Norfolk, Va., auditors of the Seaboard Railway were studying old records covering operating costs of the Raleigh & Gaston Railroad, one of the earliest parent companies of the present Seaboard system. Here are some of the entries they encountered:

Gaston, N. C., Tuesday, March 31, 1840.

Engineer, captain, fireman, 2 trainhands: dinner, supper, breakfast, and lodging	$1.88
Extra engineer, supper, lodging, and breakfast	.38
Mr. Styles, 3 drinks	.19
Mr. Myers, 5 drinks, 1 ditto, 4 ditto—at 4½c each	.45
Two pints of brandy and bottles	.50

No wonder they call 'em the good old days!—*Arejas Vitkauskas, in "Gourmet."*

Railway System. There is no passenger service over the line today.

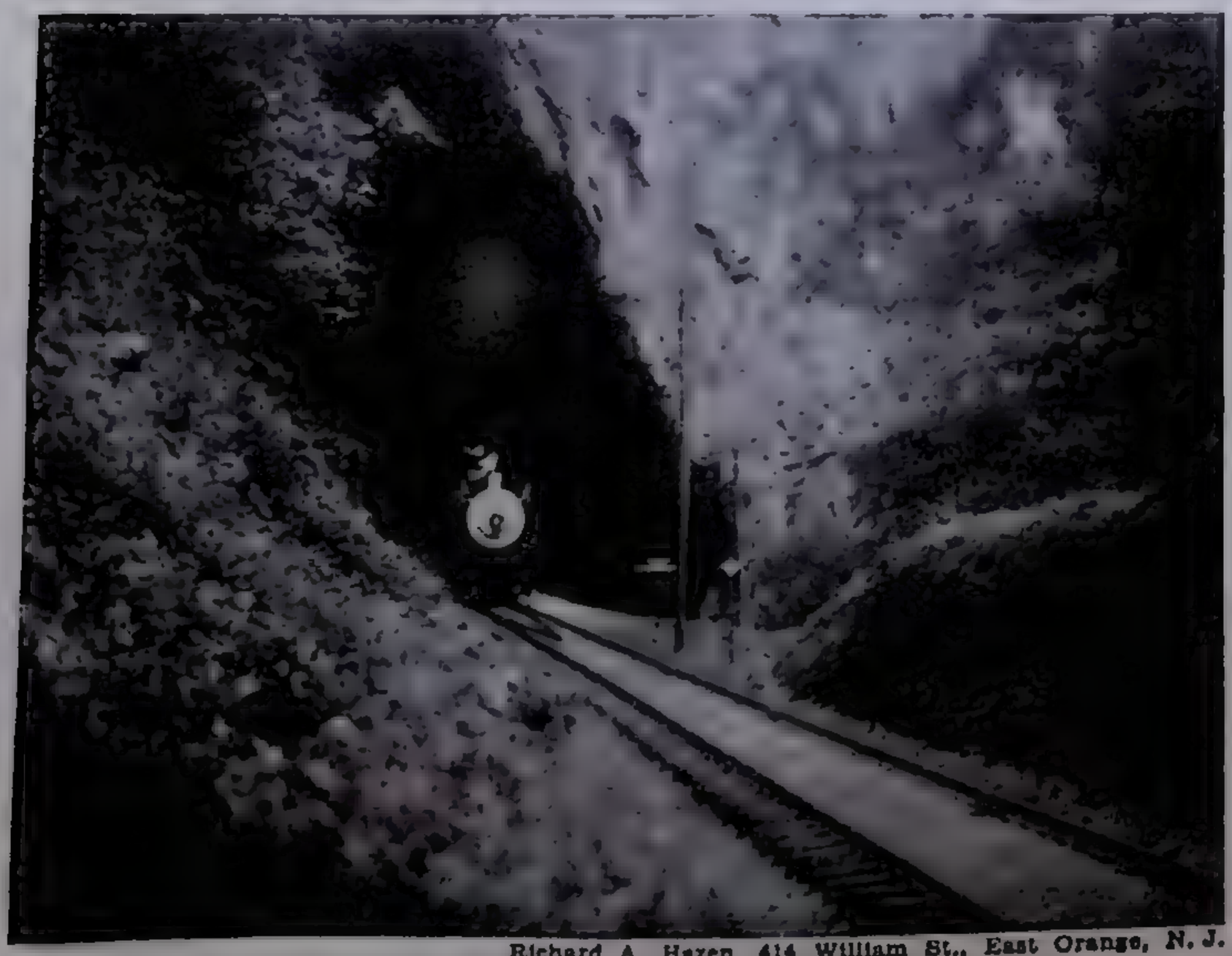
Exploration of the tunnel and the construction of the line of railway through it are described by the late J. H. McCue, the engineer who surveyed and constructed the original line, as follows:

"When I made the first survey through this tunnel I found it filled with driftwood and other debris which had almost closed up the opening, although prior to that time the natives had occasionally ridden through it on horseback. On account of the stream of water flowing through it, it was seldom used by pedestrians. It is strange that a natural wonder of such magnitude should have been so little known prior to the time the railroad was built. The natives knew it as 'Stock Creek Sink' and did not seem to appreciate the fact that they had in their midst one of the most wonderful pieces of nature's handiwork.

"After the removal of the driftwood and other debris which had been washed into the tunnel at times of excessive high water, it was ascertained that the base was sufficiently wide for both the stream and the railway. The loose rock was then thrown over on one side, forming the foundation for the roadbed. This was raised to proper grade, which left an unobstructed way on the other side of the tunnel for the stream.

"At about the center of the tunnel there was found a natural column of limestone projecting from the roof to the base with an aperture on one side sufficiently large to take care of the stream of water. The only blasting done in the construction of the track was in boring through this column a distance of about 16 feet. After this was done a supporting column was left in the center of the tunnel between the railroad track and the stream. There were no projections nor corners to be knocked off.

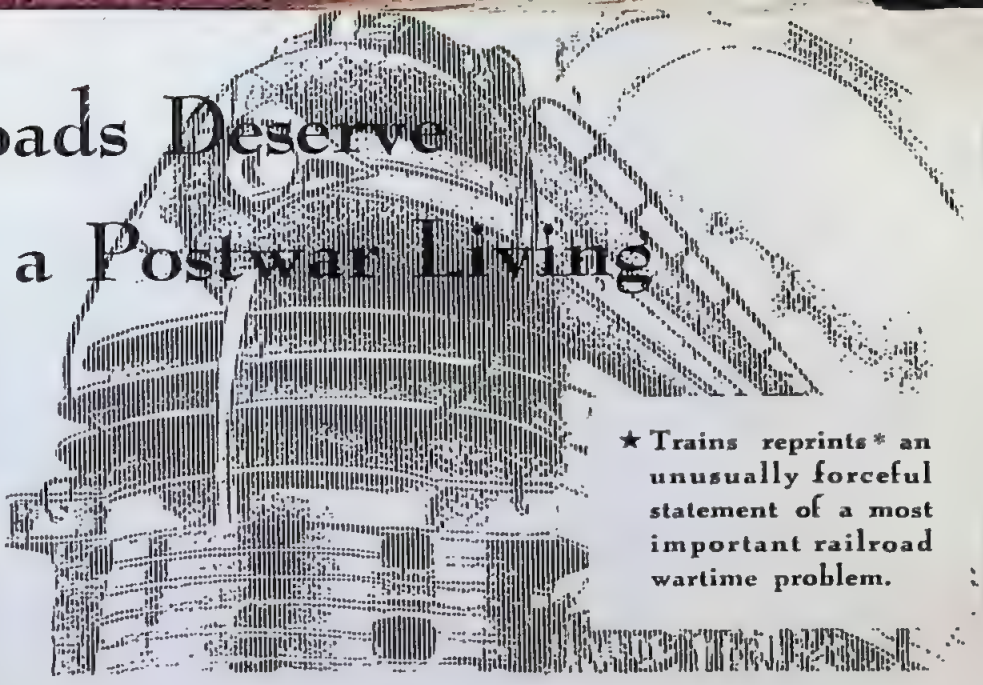
Many interesting legends are connected with the tunnel, including one about a beautiful princess who threw herself from the crest of the cliff when her sweetheart failed to return from battle. The vicinity is said to have been a rendezvous for the Indians, and markings on the cliffs are believed to be Indian signs.



Richard A. Hazen, 414 William St., East Orange, N. J.

Through the Natural Tunnel coal from southwest Virginia is shipped to the lower Eastern Seaboard. While the railroad refers to the portals as "east" and "west," the track through the tunnel actually runs more from north ("west") to south. This is a view of the west portal. The train is a drag of empties bound for the coal fields. Average height of the tunnel is 100 feet; average width, 130 feet.

The Railroads Deserve a Postwar Living



★ Trains reprints* an unusually forceful statement of a most important railroad wartime problem.

*By Bertram Fowler.**

THAT the railroads are doing a magnificent job in the total war effort has been conceded by everyone who knows the tremendous transportation burden thrown upon them. What is not generally known, however, is that they are being rewarded by a system of taxation that now threatens to penalize them out of existence as an industry.

Owing to manpower shortages as well as shortages of all critical materials, the railroads have been forced to shelve for the duration the bulk of their maintenance and renewal program. Normally this phase of railroad operation is a continuous job. Rolling stock that has worn out or become obsolete is replaced; roadways are rebuilt, worn rails are replaced, the whole expense being charged off as legitimate maintenance.

Since the railroads must keep every available piece of rolling stock moving in spite of the labor and material shortages, it is understandable that the business of maintenance has been reduced to the minimum: only those immediately essential replacements and necessary repairs to locomotives, cars and roadways that will keep them in condition to carry the wartime load. But the longer this patching phase continues, the more drastic and costly will be the complete overhauling job the railroads eventually must do.

Realizing this, the railroads began to set aside funds that normally would be spent now for maintenance. The Interstate Commerce Commission, recognizing the validity of this, and the paramount necessity for the existence of such funds at the end of the war, authorized the railroads to set them aside as legitimately deferred maintenance expenses.

The Department of Internal Revenue, however, took a different view of the matter. Such funds, it argued, were profits and should be taxed as profits. So far, nothing that anyone has been able to say has moved it from this position. Hence there has followed a procedure that would be intensely comic were not the long-range outlook so threatening to the existence of one of the nation's vital industries.

If the railroads were experiencing the normal wear and tear, the situation would be bad enough. Actually, depreciation has set in at an alarming rate. It is anticipated that in 1943, for instance, the railroad traffic will prove to be as great as the traffic in 1918, peak year in World War I, plus that of 1939, the latest prewar year. Since wear and tear upon the railroad plant can be measured surely in terms of traffic, it follows that the "time life expectancy" of roadways, equipment and rolling stock has been cut in half.

Add to this the factor of obsolescence, and the plight of the railroads becomes indeed alarming, especially when one realizes that part of the obsolescence has been forced upon the railroads by wartime exigencies. Railroad men have known for some time that steam locomotives for switching are uneconomic. Diesels are the engines to do the job. Yet, right now the railroads are being forced to build steam switching engines for critical replacements. Railroad men know that boiler shells should contain a percentage of nickel to cut down bulk and weight. But during the present emergency the railroads are forced to spend their money for inferior shells containing no nickel. They are, in fact, building equipment that should be junked as obsolete the moment the war is over and critical materials again are available.

Moreover, the railroads are fully aware of the competition from trucks and airplanes that lies ahead. They know that the cargo plane of the future is being improved and modernized now at government expense, an expenditure that will yield a direct profit to the airlines when they move into civilian business at war's end. In the face of this, the railroads have been forced to freeze their designs for the duration.

But the railroads feel that they can overcome this handicap and meet the competition if they have the funds with which to build new rolling stock and faster locomotives, the funds to build roadways and replace worn rails.

So the railroads continue to set aside the funds for deferred maintenance. And the Department of Internal Revenue, claiming that these funds are unexpended profits, steps in and demands taxes up to 81 per cent of the total. Thus, to get a dollar for deferred maintenance, the railroads are obliged to set aside about $5.26, of which Internal Revenue's share is approximately $4.26.

Looking forward to the postwar world, one fact stands out in bold relief. We shall have with us a tremendous re-employment problem. In possession of the necessary funds, the railroads can do much toward helping with that problem. Billions of dollars and an army of men will be needed to re-equip the railroads.

The present interpretation of the Internal Revenue code really means that the capital of the railroads is being taxed. Under such taxation the railroads' program of bond retirement is being negated.

The railroads cannot hope to shoulder any program of recapitalization wished upon them by a government desiring to re-employ idle men. To put across such a program would mean billions spent on a W. P. A. scheme for the railroads. The result of such a program, putting the railroads still further in debt to the government, almost certainly would bring up a strong argument for nationalization.

Given just treatment, the railroads can make their own plans for their future and carry them through themselves. But, to do it, a simple amendment to the Internal Revenue Code must be made now and the whole question of justly and economically deferred maintenance funds settled on a common-sense basis.

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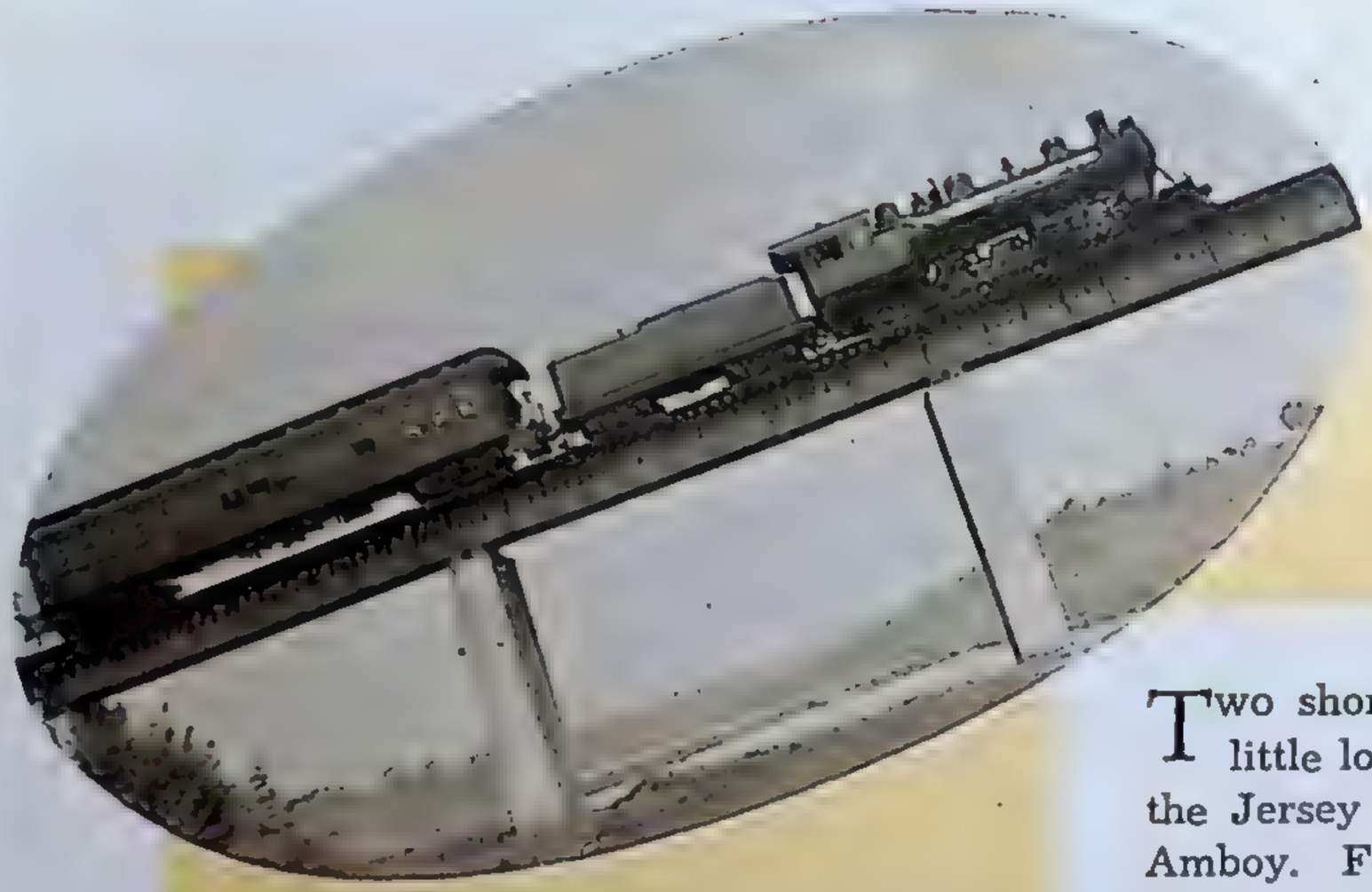


Raritan

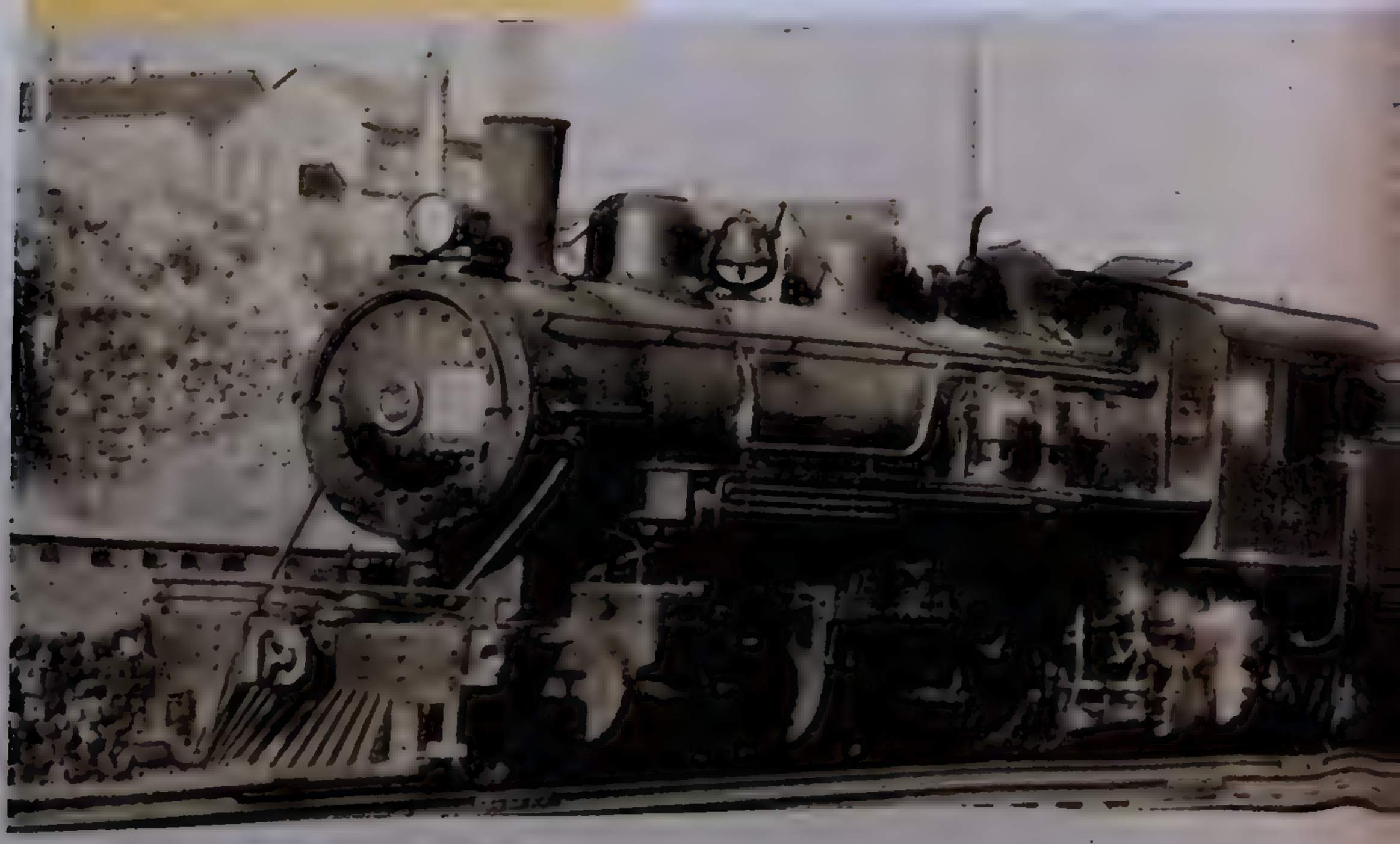
By Frederick W. Deibert.

★ Riding the freight on a New Jersey short line, important freight feeder to the larger roads — and a money-maker!

The Raritan River's last passenger revenue was $92 in 1938. It came from this now-discontinued mixed train pictured on the New York & Long Branch at South Amboy. The Raritan River's own track is on grade in background.

Two short whistle blasts, and four laboring little locomotives begin a vicious assault on the Jersey Central connection grade at South Amboy. Forty cars they're dragging behind them today; 40 cars of pay freight, and this is only one of several daily trains that ascend this winding stretch of high iron. The railroad? The Raritan River, a prosperous little pike down Jersey way that quietly and modestly goes about its task of serving millions of dollars' worth of modern industrial plants.

It's a short line all right; the small locomotives, lack of signals, and single-track right of way tell you that; but underneath it all you can't help but feel the thrill of modern railroading. As you start off from Perth Amboy two snorting iron horses behind you raise a boisterous din, and two more in front, out of sight around a sharp curve, belch forth plumes of snowy-white smoke that, carried by a strong west wind, plummet down around the grimy caboose windows like clouds from heaven. Wait-



River Railroad

ing leisurely in front of the road's modern 12-stall roundhouse to pick up another eastbound train is No. 10; No. 8's fireman waves cheerily to the crew as we pass.

The noise lessens materially as Bergen Hill is passed, for the two puffing locomotives behind drop off to sort lines of waiting cars in the Pennsylvania exchange yard. A couple of miles farther along the main as we rumble over a steel bridge, a tiny narrow-gauge dinky chugs beneath us, hustling along a string of equally tiny dusty dump cars to a river dock. To the left, framed by a bright azure sky, a great gaping clay pit is visible, with huge, powerful steam shovels taking great bites out of the steep sunlit walls of the pit face. Some of these bites will go out on Raritan River rails as soft pulverized clay or scratchy processed sand to help make linoleum for your floors, or to assist in the building of some smooth highway of asphalt. Shortly the steady bark of exhaust lessens; there's a sharp click-clack as singing flanges bang over numerous switch frogs, and the small yard at Sayreville Junction disappears around a curve. Then 40 cars of freight crash to a stop in front of Parlin's tidy brick station.

Chances are that your automobile is finished with colorful paint made in the towering buildings across the tracks. Hiding behind one another up ahead are the sprawling structures where movie film is made. There's no suggestion here of Hedy Lamar's exotic beauty or the golden tresses of Veronica Lake. The Parlin yard goat clatters past to reclassify our consist, and, alone with the caboose, I am left to ruminate over First World War days when 26 daily passenger trains used to pick up or discharge a goodly number of their 9000 commuters before this very station. Anyone bound for Parlin today takes a crawling bus if he has no automobile, for the last lone passenger run was made back in 1938. Maybe the old open-end wooden coaches did not offer modern streamline riding comforts, but not one single railroad pas-

R. P. Morris, 47 Elm St., Elizabeth, N. J.

Lost: a ladder.

On one of the fast trains of the Canadian National Railways between Montreal and Halifax, a lady was trying to get into an upper berth but the porter could not find the ladder.

"Lady," he said, "I have been a porter for 18 years, and this is the first time I ever lost my ladder. I had it right here a minute ago."

An English sailor popped his head out of an upper berth and said, "I'll lend you my ladder till morning."

He had pulled the ladder into the berth with him.—*Walter Legge, in the Granby Leader-Mail.*

senger was ever seriously injured; and that's more than you can say for the autos. During 1917-18 huge munitions plants nearby contributed heavily to the 3,600,000 tons of freight carried by the Raritan River to its connections. Having much to do with the peace of mind of the surrounding countryside (and the railroad itself) is the fact that no explosives are made along the line today.

My thoughts are suddenly interrupted by a jolting thump as the train couples on. Two more shrieking notes from No. 11's whistle and we're off once again with only one engine and 20 cars. The rest of the original 40 are destined for plants farther up the line, and will be taken up by the Gillespie switcher when it comes along with some Pennsy interchange.

Pungent fumes enter the open caboose door, emanating from a factory scarcely visible behind a string of tall box cars. Our view of a dusty white cement plant down the short Gillespie Branch is soon hidden by a screen of foggy smoke from Natco's brick yard, and in a few minutes we amble to a stop in front of South River's rambling freight house. While some fascinating boxes and crates are being stowed away into the roomy confines of the sprawling building, I wander about the abbreviated yard. To the left stands a solitary kiln and a few heaps of crumbling brick; it's all that remains of South River's last active brick yard. At one time huge quantities of this rusty-red building material were manufactured in the enterprising little community, much of it shipped by the railroad. Today, however, this once-profitable traffic has been replaced by coal, lumber, and a few manufactured products of diverse nature.

While we stand at South River, No. 9 puffs merrily by, on her way to the Serviss Branch with an empty gon for Whitehead's sand-loading plant and a hopper for the coal yard. Five piercing screams from our own No. 11's whistle disturb the lazy atmosphere, and I hop on the caboose steps none too soon. Our stay has been brief, for No. 9, when she returns, will do the switching work on the cars which we left behind. From now on we're strictly way-freight, but still Engineer Novak stops only long enough to drop off a few cars at Milltown before wheezing to a halt at the station in New Brunswick.

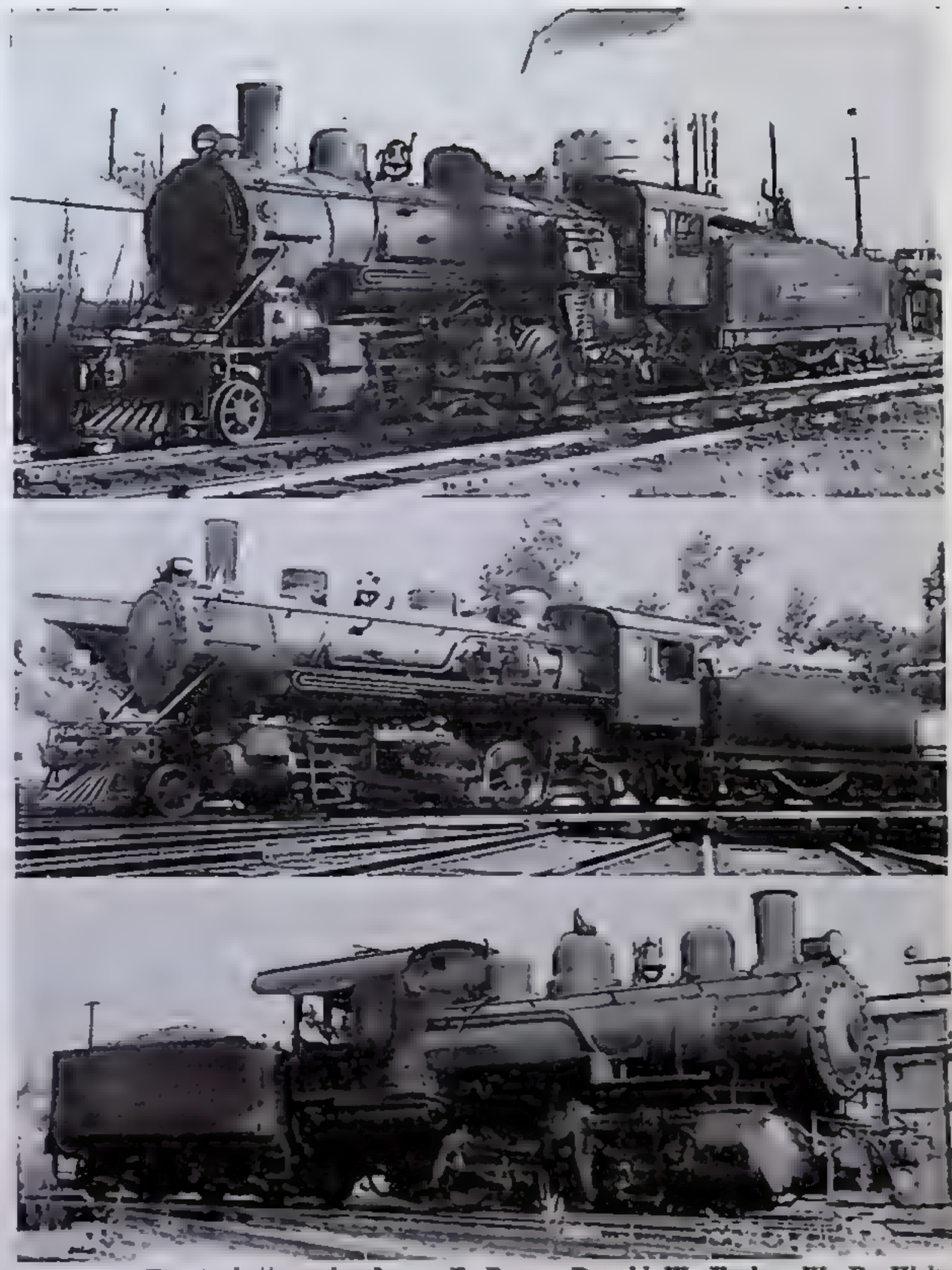
Here we proceed to spot a hopper or two of glossy black diamonds in front of the huge coal bunkers near the station, and to pick up a gonful of pressed-metal scrap from the junkyard siding. There seems to be nothing for the farmers' co-op or the lumber yard, but the

No. 5 at Parlin.

Raritan River's 5-spot stops with its freight near the old brick water tower at Parlin. The No. 5 is the archetypal Consolidation of the early part of the twentieth century, but, unlike most of its 1910 Baldwin-built brothers on other roads, the lines have been little changed since. The capped stack particularly is a graceful reminder of years gone by. The locomotives on opposite page are Nos. 9, 11, and 7.

Texas Company is getting a tank car of oh-so-precious gasoline, and —ah, yes—there's another car of coal for Dugan's. Sinclair Refining has an empty tank for us to pick up, so Novak couples it on in no time. Small bulk stations, these; but good customers all the same. Occasionally the muffled roar of a flashing electric giant pentrates the air, for about a quarter-mile west is the main line of the Pennsylvania. When the Raritan River was constructed back in 1888-90, its builders hoped to cross these glittering ribbons of steel and lay track to Bound Brook, about 10 miles northwest. This would have meant connection with the main lines of the Reading, Jersey Central, and Lehigh Valley, and a goodly share of coal and other traffic destined for North Jersey coast points; but destiny and financial difficulties stopped them here, so dreams of becoming a through-haul carrier were put to rest. Destiny wasn't too unkind, for this short line makes money where many a big road fails.

It's necessary to stop before each of the two grade crossings and send out an advance man to protect



Top to bottom: by James F. Byrne, Donald W. Furler, W. R. Hicks.

E. F. Gardner, Metuchen, N. J.

Raritan River locomotives.

No.	Type	Builder	Year Built	Disposition and Year Disposed
1	4-4-0	Baldwin	?	?
2	4-4-0	?	?	?
3	4-6-0	Baldwin	1892	Scrapped, 1915-1916.
4	4-6-0	Baldwin	1899	Scrapped, 1915-1916.
5	4-4-0	?	?	?
1	2-8-0	Baldwin	1907	Scrapped, 1929-1933.
2	2-8-0	Baldwin	1909	Scrapped, 1929-1933.
3	0-6-0	Baldwin	1912*	Sold to E. H. Wilson & Co., 1922-1923.
4	0-6-0	Baldwin	1912*	Sold to E. H. Wilson & Co., 1922-1923.
5	2-8-0	Baldwin	1910	In service.
6	2-8-0†	Baldwin	1906	Sold, 1923.
7	2-8-0	Baldwin	1912	Scrapped, 1933.
8	4-4-0	Cooke	1893†	Scrapped, 1918-1919.
9	2-8-2	Baldwin	1915	In service.
10	2-8-2	Baldwin	1915	In service.
11	2-8-2	Baldwin	1916	In service.
12	2-8-2	Baldwin	1916	Scrapped, 1937.
14	2-8-2	Baldwin	1916	In service.
15	4-6-2	Baldwin	1916	In service.
7	0-6-0	Baldwin	1919§	In service.
8	0-6-0	PRR	1910‖	In service.

* Purchased from General Equipment Company, 1917. † Lighter than other 2-8-0's. ‡ Ex-Lackawanna No. 927; acquired 1914. § Ex-Chattahoochee Valley No. 11; acquired 1941. ‖ Ex-Pennsylvania No. 7542; acquired 1938.

3/4" equals one mile.

Reaches of the Raritan River Railroad.

The Raritan River Railroad is itself like a river with tributaries, ending at a delta where one outlet channel is the interchange track with the New York & Long Branch and the other is with the Pennsy. All outbound traffic flows to these points from the various spurs and sidings spread out between South Amboy and New Brunswick. This region has been industrially important for well over a hundred years. In the early days boats from Philadelphia to New York went up the Delaware River to Trenton and inland via the Delaware & Raritan Canal to reach tidewater at New Brunswick. All this was changed by the building of the Camden & Amboy, now PRR (right side of map).

Howard E. Johnson.

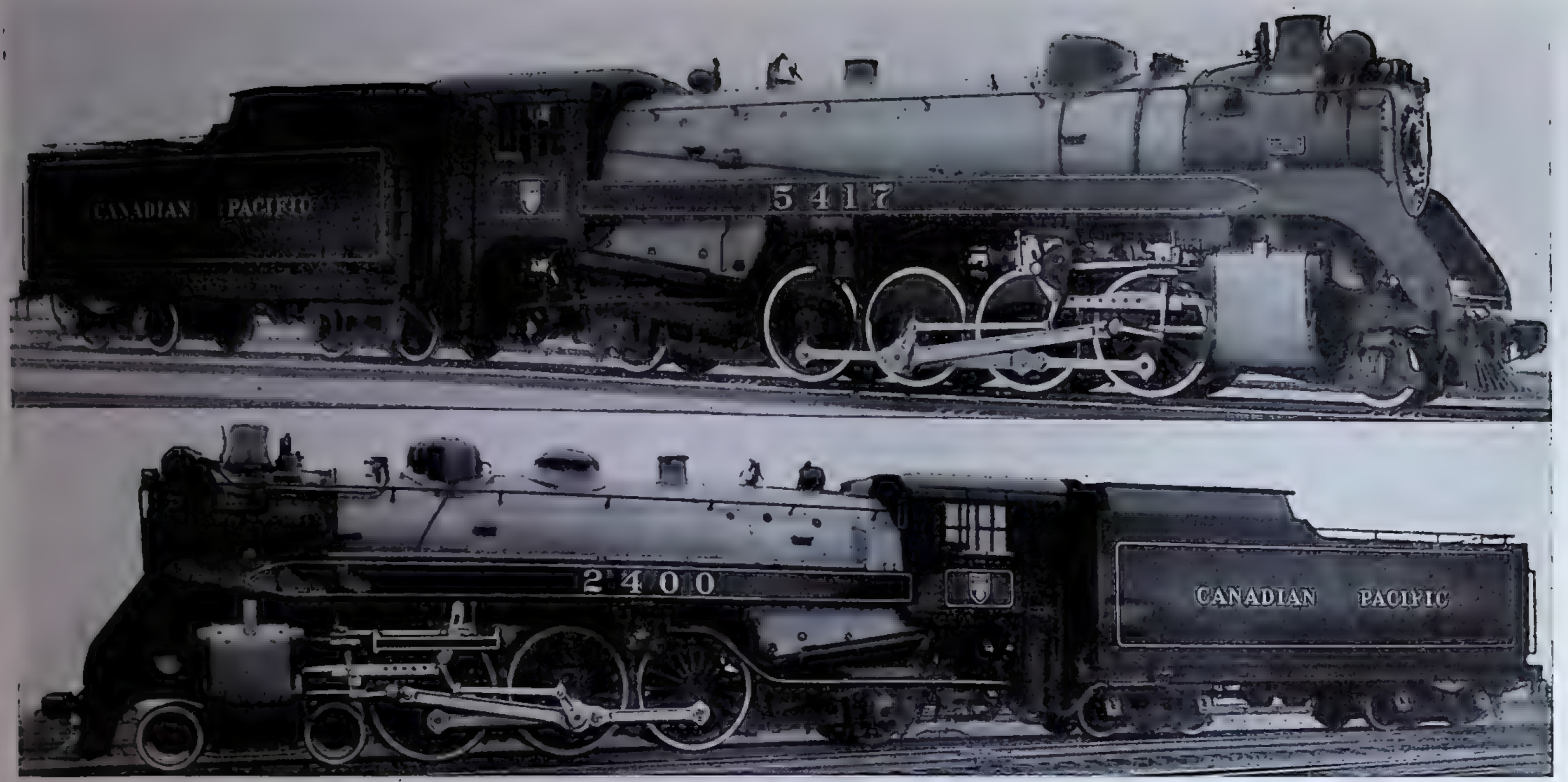
The evening passenger.

Passengers no longer ride on the Raritan River, but in the last years of passenger service the evening train was a locomotive with a single combine car, a picturesque sight as it skooted over the Jersey farmlands.

them, for the one train a day to New Brunswick doesn't warrant the employment of a watchman. Down at the lower end of the line, though, sturdy steel bridges or striped gates protect every important crossing.

Heading homeward we jounce right over the switches leading to Milltown's new modernistic Personal Products factory but stop suddenly over the murky green waters of Lawrence Brook. "There's a lumber yard off the line a ways and the brakeman will ride the car down to our train," says Fireman Geant. Sure enough, down she comes, flanges squealing, coupling onto our train with a resounding smack. No. 11 makes short work of spotting the cars left at Milltown in the morning, backing gingerly over a shaky coal trestle and slowly up a narrow way between two factory buildings with a carload of flour for Flako. Flako makes a prepared pie crust, and swimming about in my head are visions of a tart rosy-red cherry pie, while its imagined luscious aroma makes my mouth water hungrily. The shady, grass-grown Fresh Ponds spur winds its verdant way along the brook to a sand-processing plant, but today they aren't getting any cars, so we continue our way to Parlin, where the run officially ends. But we are destined to take a bumpy ride down the uneven Sayreville Branch for a carload of brick from Sayre & Fisher before coupling onto a 30-car down-freight bound for all parts of the vast nation that is the United States. Then there's a brief wait as the Kearny Spur drill goes by: eight payloads from a three-million-dollar pigment plant.

The brilliant orange sun is setting in a radiant sky as my weary feet hit the ballast at Bergen Hill. Novak and Geant wave a friendly farewell. I can hear the throb of No. 11's pounding side-rods long after going to bed. It has been a long day, but a day well spent; spent on a true American railroad, the spearhead of our democracy, a feeder short-line.



Courtesy Canadian Pacific.

These are both freight locomotives.

THE Canadian Pacific has recently received from the Canadian Locomotive Company 40 new Pacific-type locomotives of Class C-3g, numbered from 2378 to 2417, and 20 new Mikado-type locomotives, Class P-2h, numbered from 5417 to 5436. Although the Pacific type is ordinarily a passenger locomotive, both new CP classes were designed primarily for freight service. The Pacifics can, however, be used in passenger service without any general speed restrictions. The Mikes are counterbalanced for a maximum of 65 miles per hour, and locomotives of this class have been used in passenger service on some sections of line where the grades are heavy.

Specifications:

	C-3g	P-2h
Road Classification		
Road numbers	2378-2417	5417-5436
Tractive effort, pounds	45,000	57,500
Cylinder diameter and stroke, inches	22 x 30	22 x 32
Driver diameter, inches	75	63
Weight on drivers, pounds	199,600	244,500
Weight of engine, pounds	323,000	334,000
Weight of tender, pounds	242,000	239,000
Steam pressure, pounds	275	275
Grate area, square feet	65	70.3
Evaporative heating surface, square feet	3172	3436
Tender capacity: Imperial gallons of water	10,000	10,000
Tons of coal	18	18

THE beam of a giant headlight stabbing through the black, the long call of the engine's whistle, the thunder of the train in its flight through the night — those are things which, at this season, bring thoughts of "home for Christmas."

But this year it's different. The men and women in the service — those who can be spared for a few days from their pressing business of Victory — have first call on the trains.

But if you find that you must travel at that time:

Ask your local ticket agent about the less crowded trains and the best days on which to take them.

Cut your hand-baggage to one piece — check the rest.

Tag all luggage to avoid mistakes and mix-ups.

And if your plans change, cancel your reservations promptly.

ASSOCIATION OF AMERICAN RAILROADS
ALL UNITED FOR VICTORY

BUY MORE WAR BONDS

Switcher and war worker.

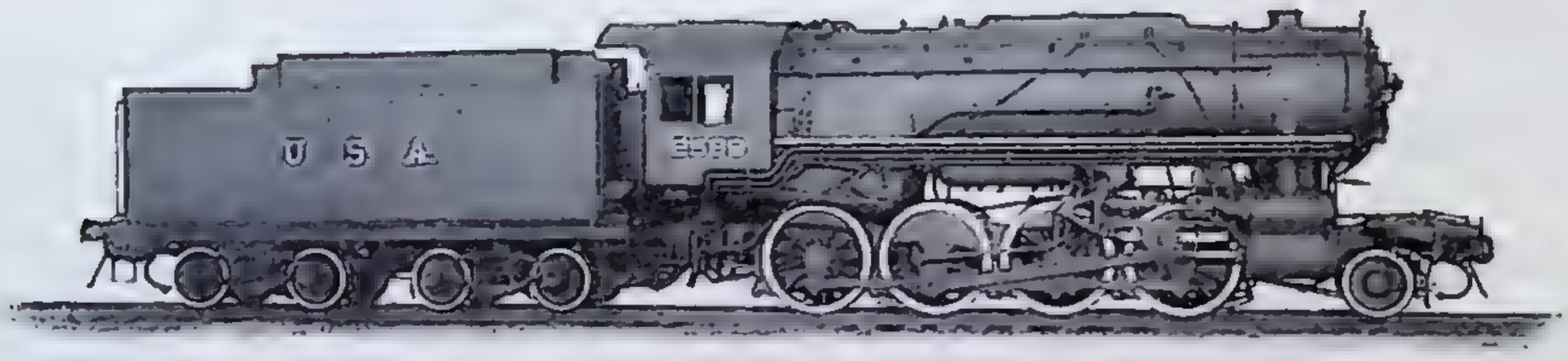
MOST new switch engines in recent years have been Diesel-electrics, but steam switchers are still built. Any ordinary locomotive assignment can be handled equally well as far as performance is concerned by either steam or Diesel power, and the choice simmers down to a comparison of cost. In switching, the Diesel usually has the edge on cost, because of the lack of standby losses and the Diesel's ability to work continuously around the clock. But where 'round-the-clock performance isn't necessary, and where coal is cheap, the steam switcher does the trick at less cost. The Conemaugh & Black Lick 0-8-0 heavy switcher shown above is one of two built by Lima in late 1941.

The government locomotive of Consolidation type was built by Lima early in the war and is in use on the Alaska Railroad. War Department restrictions prohibit publication of the specifications.

Specifications, C&BL 0-8-0:

Road numbers	47-48
Date built	1941
Tractive effort, pounds	55,400
Cylinder diameter and stroke, inches	25 x 28
Driver, diameter, inches	51
Weight on drivers, pounds	230,800
Weight of tender, pounds (two-thirds load)	122,017
Steam pressure, pounds	190
Grate area, square feet	47
Evaporative heating surface, square feet	2777
Tender capacity: Gallons of water	8200
Tons of coal	11

These 'Iron Doughboys' Fight on Many Fronts



Shown above is a builder's view of one of a large number of locomotives built for the United States War Department not only by Lima, but also by other locomotive builders. A Lima-built locomotive of this type arrived at Oran, North Africa, late last spring and was immediately set up by the Military Shop Battalion at this base. Since then it has hauled everything there is to haul over there — ammunition, rations, wounded, trucks, tanks, and the soldiers of five armies: British Tommies and Gurkhas from India, French Foreign Legionnaires and Senegalese from Equatorial Africa, Americans, Germans and Italians. The last-named two nationalities were carried in ignominy. They were prisoners.

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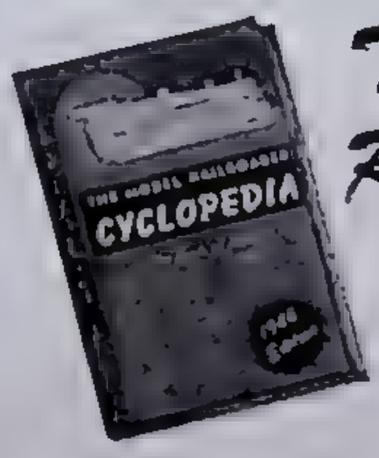

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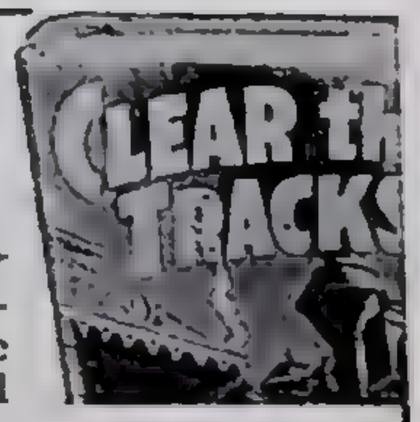

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By Edward Hungerford:

The Man in the Tower

THEY ran higgledy-piggledy over the western part of old New York State. . . . When the Towerman was a newspaper reporter in Rochester many years ago, he knew them all: the lordly Fall Brook, whose offices and shops were in Corning in the Southern Tier (since come to be one of the great centers in glass-making in America) and whose officers—the Magees, the Gortons and the Browns—were the howling swells and nabobs of the place. . . . The Buffalo, Rochester & Pittsburgh he knew far better. George E. Merchant ran it from Rochester there at the turn of the century, and he ran it very well indeed. . . . The Western New York & Pennsylvania was just going into the hands of the Pennsylvania to afford that system a much-needed direct entrance into both Rochester and Buffalo. . . . The Shawmut, well to the south of us, was perennially embarrassed financially . . . while the Buffalo & Susquehanna was just entering upon a brief, spectacular, but totally unhappy career.

There were four or five other small railroads in the western part of the state, but they hardly are worth even mentioning, with the possible exception of the eight-mile Bath & Hammondsport, which ran its own lines of passenger steamboats upon Keuka Lake and whose president once asked James J. Hill for an annual pass on the Great Northern, inclosing passes for his own small railroad and steamboat company. When Hill replied that he had looked up the Bath & Hammondsport, could walk the line in an hour, and swim the lake, the Yorker countered by saying that the B&H was just as wide, anyhow—a salient fact that the little road still prints upon its annual passes.

Bill Noonan.

Underwood & Underwood.

IT WAS the Buffalo, Rochester & Pittsburgh that most interested the Man in the Tower—perhaps because Mr. Merchant gave him his first long-distance ride in an engine-cab to the Kinzua Viaduct in Pennsylvania, which rose 300 feet above the stream in the valley far below and which in those days was a great place for Sunday excursionists from Rochester and Buffalo. The citizens went traipsing down there in long excursion trains and stuffed themselves unmercifully with frankfurters and Bartholomay beer.

The road, which slinked southwesterly from Rochester, originally had been called the Rochester & State Line, and it contented itself with reaching the important town of Salamanca, where it made close connection with the through trains upon the Erie, east and west. One of the earliest and most sought-after of the Currier & Ives railroad lithographs is of Salamanca Station, long since supplanted. In fact, there no longer is even a train connection there. The Baltimore & Ohio, which has operated the BR&P for the past dozen years, has now completely abandoned Salamanca Station, using, instead, the large one at East Salamanca a mile outside of the town.

BUT to the Man in the Tower, the Buffalo, Rochester & Pittsburgh always meant Bill Noonan; and, conversely, Bill Noonan always meant the BR&P. The two were interchangeable, but one could not be separated from the other. When the road was leased to a larger system, a necessity, they said that Bill Noonan's heart was broken. He quit active railroading and retired to his handsome estate at Pittsford, near Rochester—a simple but glorious place with miles of bridle path upon which the president of Buffalo, Rochester & Pittsburgh—he still holds that title and will hold it until he dies—can indulge in his favorite pastime.

William T. Noonan, born in Minnesota, went to Rochester through several intermediate steps of railroading, and at 36 was the youngest railroad president in the United States—and the best-looking. He had charm; his was a contagious smile; and he possessed a workable railroad knowledge that at once shot him to the fore and kept him there.

When he went to the Buffalo, Rochester & Pittsburgh in 1909, he found the road already had pushed beyond its Erie connection at Salamanca and on into Bradford and the rich oil and soft-coal country of northwestern Pennsylvania. But it never had earned the right to that "Pittsburgh" in its name. Noonan quickly rectified that. He pushed the line through Punxsatawney to Butler, where it quickly got running-rights over the B&O into the Coal City itself. That done, he began the upbuilding of the property. Money was poured into it (it always enjoyed excellent credit) and the money was poured wisely. Much of the line was rebuilt, much of it double-tracked and rock-ballasted. New station buildings were put up everywhere along the line until the road rivaled and even topped the rich Lackawanna—and that, a quarter of a century ago, was saying something. There were new shops, new roundhouses, everything of most modern and efficient design.

Mobile equipment kept pace with the right of way. Noonan bought locomotives and cars until he had more cars per mile than there were on any other railroad in the United States. They were the very best engines and cars that could be bought. Nor did he neglect the passenger-equipment side of the picture. It was as good as the best. There were sleeping cars and the road's own parlor-observation cars and diners between its three chief cities. They, too, were the very best that money could buy.

LIKE the earlier Fall Brook to the east, coal always was the chief traffic of the Buffalo, Rochester & Pittsburgh. One of the primary outlets for its coal was to Canada, over the remarkable car-ferry that Noonan helped establish from the waterfront at Rochester to Cobourg on the north shore of Lake Ontario. Two huge steamships—miniature ocean liners they were, with tracks for 30 loaded cars on their main decks and fine passenger accommodations as well—were placed in service on this 60-mile run. At times of stress and heavy traffic each has averaged two round trips a day. A fine turning-basin and dock recently has been built in the mouth of the Genesee at Rochester, and in the trying days of the present war the service has been more than a godsend to our neighbor to the north. Like the ships across Lake Michigan, these run the entire year. Noonan fathered all of this. But, best of all, he fathered human sympathy and human understanding on the road, which, in the days of its independence, he ran completely by himself. Accustomed to a grand scale of living, his business car probably was the handsomest of any railroad in the east, yet there was not a BR&P employee—no matter what his job—who was not welcome at any time to it or to the president's office. You can take a road of slightly more than 500 route-miles and maintain an intimate relationship with all its men; and this Bill Noonan succeeded in doing, at the same time keeping close to the road's patrons as well. No wonder that the road always succeeded.

However, in a day of increasingly big things, including big railroads, the Buffalo, Rochester & Pittsburgh was doomed. It gave way to the inevitable on the last day of December, 1931. Thereafter, Rochester ceased to have its own railroad and there was a good deal of grieving in the town. No one grieved more than Bill Noonan. His pet child had been sold down the river; and yet he realized that it was the only thing that could be done.

THE anecdotes about Noonan are innumerable. He was the glamor boy of the railroads, one of the most colorful executives that they have ever known. Warm-hearted, generous to a fault, immensely capable, in Rochester he always acted the role of a recluse. Rarely was he seen at its clubs, its hotels, its restaurants, its chamber of commerce. He preferred to lunch alone in his office each day. A brisk five-mile walk there each morning, and then five miles home again each night, kept him in the best of condition. He was affable, but a bit aloof. But he never was aloof from the men who worked with him and for him. They were loyal to the core and, much more than that, they shared his enthusiasms. That meant good teamwork, and the BR&P was distinguished for its teamwork. It was a *big* little road, if you get what I mean.

It is gone now! The old name has been wiped from its cars and engines, and Baltimore & Ohio substituted. To the eternal credit of the Baltimore road, it must be said that it has not let the Rochester road down. There have been many changes. The handsome parlor cars and diners and observations have gone now, and more recently the sleepers that formerly plied between the three chief cities of the system. Rochester no longer rates even a superintendency, and the handsome BR&P headquarters building there stands well-nigh deserted. Noonan still keeps his office and he goes to it faithfully each day. But no longer does he rate a car of his own; no longer does he ride gaily out in it with his friends and associates. Although still hard at work, still doing good business, the old road is gone. Yet it stands, a real monument to a man who built almost better than he knew. It still is a first-class railroad.

I rode its one through day-train from Rochester to Pittsburgh not long ago, and it was a good train. Luxury facilities upon it were confined to one of those first-class Baltimore & Ohio air-conditioned coaches with a buffet at one end, whose offerings, if not elaborate these war days, were generous in sandwiches, eggs, and coffee. One need not starve on such a train—and one did not. As a scenic route, it hardly is to be beaten anywhere in the East. It rides through the mountains and over them easily and majestically. Good track, good power; and even if the handsome station buildings that Noonan put up right and left are not kept quite in the condition in which he kept them, they still are far from being down at the heel. . . . A railroad of good history and good antecedents, still a good railroad. And that is something.

Edward Hungerford

On the Buffalo Division north of Ashford Junction, N. Y.

Collection of H. H. Kingston Jr.

"Why shouldn't I buy it? I've got the money!"

Sure you've got the money. So have lots of us. And yesterday it was all ours, to spend as we darn well pleased. But not today. Today it isn't ours alone.

"What do you mean, it isn't mine?"

It isn't yours to spend as you like. None of us can spend as we like today. Not if we want prices to stay down. There's more money today—less to buy. If we all start scrambling to buy everything in sight, prices can kite to hell-'n'-gone.

"You think I can really keep prices down?"

If you don't, who will? Uncle Sam can't do it alone. Every time you refuse to buy something you don't need, you're helping to keep prices down.

"But I thought the government put a ceiling on prices."

You're right, a price ceiling for your protection. And it's up to you to pay no more than the ceiling price. If you do, you're party to a black market deal. And that boosts prices—causes shortages.

"Doesn't rationing take care of shortages?"

Your ration coupons will—if you use them wisely. Don't spend them unless you have to. Your ration book merely sets a limit on your purchases. Every coupon you don't use today means that much more for you—and everybody else—to share tomorrow.

"Then what do you want me to do with my money?"

Save it! Put it in the bank! Put it in life insurance! Pay off old debts and don't make new ones. Buy and hold War Bonds. Keep your dollars out of circulation and they'll keep prices down. The government is helping—with taxes.

"Now wait! How do taxes help keep prices down?"

We've got to pay for this war sooner or later. It's easier and cheaper to pay as we go—while we've got the extra money to do it. Every dollar put into taxes means a dollar less to boost prices. So...

Use it up...Wear it out...
Make it do...Or do without

A UNITED STATES WAR MESSAGE PREPARED BY THE WAR ADVERTISING COUNCIL; APPROVED BY THE OFFICE OF WAR INFORMATION; AND CONTRIBUTED BY THE MAGAZINE PUBLISHERS OF AMERICA

Correspondence

Originally, the "Queen and Crescent Route" was merely an advertising slogan, as the route was made up of five distinct railroads: Cincinnati Southern, Alabama Great Southern, New Orleans & North Eastern, Alabama & Vicksburg, and Vicksburg, Shreveport & Pacific. These were also referred to as the Associate Roads. The legal department was very strict in its ruling that they were *not* the Associated Roads. There was something magic in leaving off the final *d*. Each road stood on its own feet. . . . Cincinnati has been the Queen City since Charles Dickens' time, and New Orleans has been the Crescent City for many years. . . . The legal name of the road from Cincinnati to Chattanooga is Cincinnati Southern; in my time the full name was Cincinnati, New Orleans & Texas Pacific (Lessees of the Cincinnati Southern). I started as a tariff mailing clerk and finished as vice-president.

Thomas C. Powell, Retired, 1721 State St., New Orleans, La.

[On English trains] I like the little compartments, the privilege of standing in the aisle with your head hanging out the window if you like, and the unbelievably smooth motion of the cars.

Fern Kruse, American Red Cross in Great Britain.

Your sketch on the Lackawanna [November TRAINS] terminates with this road's advertising jingle of 40 years ago. Personally, I like to go back further than that—more than 50 years ago, when the Lackawanna was known as "The Road of Anthracite" and its national advertising carried an image of a large chunk of coal with this jingle underneath:

"This is the coal
That makes the steam
That turns the wheels
That pulls the trains
On the Lackawanna Railroad."

George P. Olcese, 415 N. 19th St., San Jose 11, Calif.

I wish to call your attention to an error on page 11 of the November issue. The photo by William Moedinger Jr. purported to show the last train stopping at Buffalo on April 10, 1937, behind engine No. 8. This was not the last train, for if you will look closely at this photo you will notice that the fireman is in his shirt sleeves and the women are in Summer garb. I know that the last train from Denver to Leadville was pulled by engine No. 60, as I have a negative of her at the Union Depot. The last train from Leadville into Denver was pulled by No. 9, and I have a negative of her coming into Denver. The weather was still cool.

Lad G. Arend, Route 2, Franklin, O.

. . . On April 10, 1937, it was old faithful No. 9, not 8, that wheezed into Denver Union Station with the last of the narrow-gauge trains. I have a picture of the train coming in at Sheridan Junction, and the 9 shows plainly.

Ed Haley, 4116 Decatur St., Denver, Colo.

[[Thank you, gentlemen; our caption-writer erred. The photo on page 111 was taken in the Summer of 1936.—*Ed.*]

The Washington Diesel-engine tracks beside the large steam-locomotive terminal give more variety of color—a bit clashing, too—than any other assemblage of Diesel power. The gayest are the purple and silver Atlantic Coast Line prime movers contrasted with the red and yellow Florida East Coast engines—all duplicates of one another except for the color schemes. More dignified, to my taste, are the Baltimore & Ohio *Royal Blue* Diesels and the green Southern representatives for the *Southern* and *Tennessean*. A black Diesel switcher is most drab by comparison.

Lt. W. C. Moore, U. S. Naval Reserve.

Paper for Victory

During the past year TRAINS printed 32,000 less copies than normal because of paper restrictions. This year we have been cut an extra 10 per cent and we will be forced to cut our newsstand distribution still further. Regular direct-mail subscriptions can still be entered, and can be placed through any news dealer or hobby shop. If your friends are not fortunate enough to get TRAINS, won't you please share your copy?

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Next month we will feature, across the center two pages, an exceptional Kodachrome enlargement of one of the Union Pacific's 4-8-8-4 "Big Boy" locomotives, largest in the world, pulling a freight train in Weber Canyon, Utah.

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for

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Santa Fe

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Many of them have husbands, sweethearts, brothers or sons in the armed forces. Many came to work to replace a relative who had been called into service. Others took jobs because they knew womanpower must step in when manpower goes to war.

☆ We of the Santa Fe salute these women who know that what they are doing is vital to Victory!

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